WITH GA
MacWEEK
27 February 1990 Vol. 4 No. 8 WORKSTATION NEWS

GA Imagesetter update See Page 29

End of an epoch?
See Editorial, Page 26

HP muscles in on laser market

By Henry Norr

Palo Alto, Calif. — Already reeling from lagging sales of its CPUs, Apple this week was confronted by a bold challenge to its longstanding and lucrative dominance of the Mac printer market.

Hewlett-Packard Co., which already commands some two-thirds of the desktop laser printer market, unveiled an addition to its LaserJet line that impressed analysts with its versatility, enhanced resolution and aggressive pricing. At the same time, HP announced an Adobe PostScript cartridge and an AppleTalk interface kit that will make its established LaserJet IID and IIP models, as well as the new LaserJet III, fully compatible with the Macintosh.

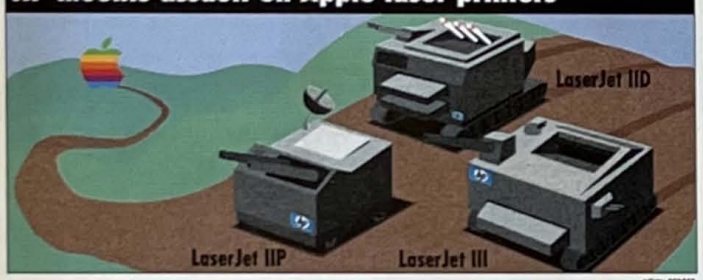
With HP's DeskWriter already eating away at sales of Apple's ImageWriter II and LQ and the LaserWriter IISC, analysts said it was probably no coincidence that Apple announced price cuts on its LaserWriter IINT and IINTX simultaneously with the HP news. The new eight-page-per-minute LaserJet III, which is scheduled to begin shipping this week, will list for $2,395, $300 less than the popular LaserJet II it replaces.

The company also slashed the price of its heavier-duty IID model by $800 to $3,495. The IIP, a four-page-per-minute printer introduced last fall, is priced at $1,495.

The AppleTalk kit, expected for all three models in May, will be

See HP printers, Page 8

HP mounts assault on Apple laser printers



KEVIN BERGER

MacroMind promotes Director, 3-D

By Connie Guglielmo

San Francisco — MacroMind Inc. last week added two important members to its cast of multimedia tools for the Macintosh: a major upgrade to its MacroMind Director animation program and a new high-end, color 3-D rendering, animation and image manipulation program.

The company also announced a collaboration with The Multimedia Corp., a new subsidiary of the British Broadcasting Corp. formerly known as the BBC Interactive Television Unit. The two agreed to jointly develop products based on The Multimedia Corp.'s Media-

See MacroMind, Page 8

CHUCK NACKE/PICTURE GROUP

On hand to introduce MacroMind's new products last week were (left to right) David Kleinberg, product manager; John Scull, president and CEO; and Marc Canter, founder and chairman.

SE, LaserWriter prices trimmed

Apple hopes cuts will fatten sales

By Connie Guglielmo

Cupertino, Calif. — In an effort to boost lagging sales of its low-end Macs, Apple last week announced price cuts of $300 to $1,000 on its Mac SE and SE/30 models.

The company also lowered the suggested retail prices on two of its printers: The LaserWriter IINT was cut $500 to $4,499, while the top-of-the-line LaserWriter IINTX was slashed $1,000, down to $5,999.

"We are lowering prices in the United States so that we can bring the Macintosh personal computing experience to more people," said David Hancock, senior vice president of marketing for Apple USA, in a prepared statement released last week. "The pricing changes will allow us to reach more people in price/performance categories where customer demand is growing."

The price cuts come at a time when Apple is under fire for failing

See Price cuts, Page 9

New price list: Savings of up to 17%

Product	New suggested retail price	Price decrease	Percentage of price cut
Mac SE			
Dual floppy	$2,569	$300	10.5%
1 MB, 20-MB HD	$2,969	$500	14.0%
2 MB, 40-MB HD	$3,369	$700	17.0%
Mac SE/30			
Floppy	$3,869	$500	11.0%
1 MB, 40-MB HD	$4,369	$500	10.0%
4 MB, 80-MB HD	$5,569	$1,000	15.0%
LaserWriter			
IINT	$4,499	$500	10.0%
IINTX	$5,999	$1,000	14.0%

Black day in Cupertino

400 pink slips — fewer than feared

By Pamela Pfiffner

Cupertino, Calif. — The ax finally fell last week on 400 Apple employees, ending weeks of suspense and speculation. The bulk of the layoffs hit the Apple USA division, including the user-critical departments of customer service and channel development, while R&D escaped unscathed.

"This head-count reduction fulfills that portion of the cost-reduction program announced last month," Apple spokeswoman Carleen LeVasseur said, referring to a series of cost-cutting measures proposed by CEO John Sculley to bring Apple's expenses in line with slumping revenues.

In an internal memo to employees Feb. 21, Sculley said there were fewer layoffs than anticipated because "We've been very successful in reducing expenses in other areas," such as outside contractors and travel expenses.

See Layoffs, Page 8

Video card will make Mac quick on the draw

By Daniel Farber

Cupertino, Calif. — As Apple moves closer to introducing a new generation of Mac video cards, additional details about the products have emerged.

Set for release next month are:

▶ A card that combines 24-bit color display with RISC (reduced instruction set computing)-based QuickDraw acceleration.

▶ A new generation of standard video display cards, which will be offered in several configurations.

The announcement of the accelerator card will bring Apple directly into the high-performance color

See Video card, Page 9

LATE NEWS

New Mac ready to roll as IIfx

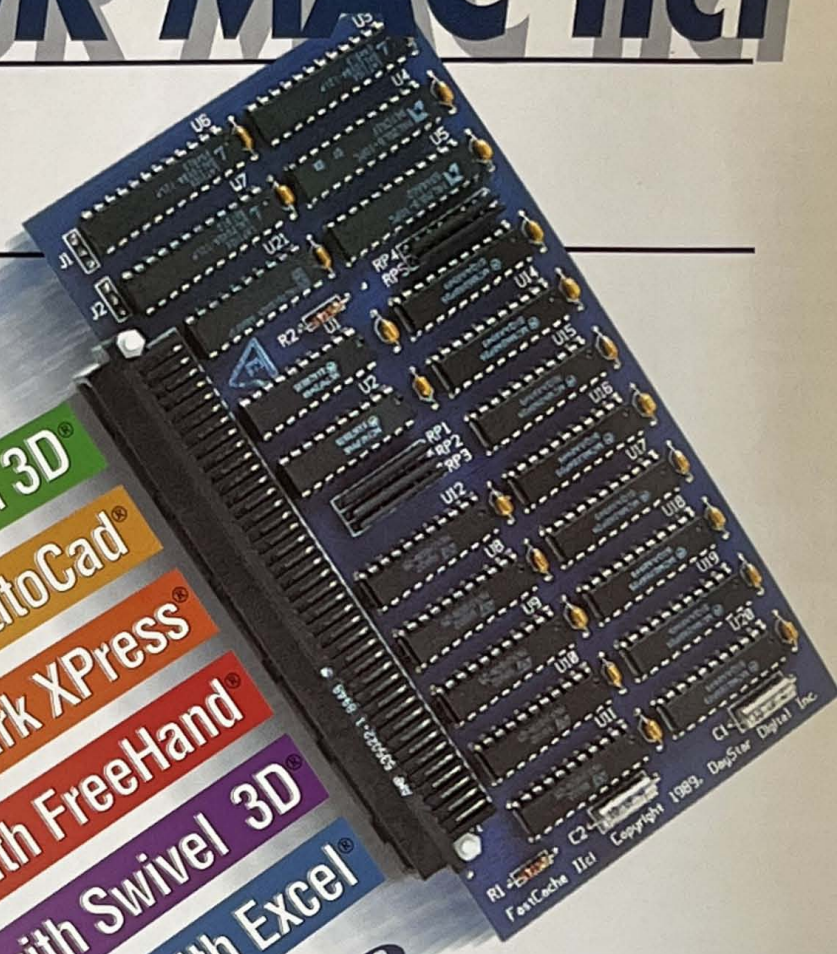
Cupertino, Calif. — Apple's latest Mac model, a high-powered workstation known during development as the Mac IIxi, is now expected to be released next month as the Mac IIfx. The machine, featuring a 40-MHz 68030, a built-in static RAM cache and two intelligent I/O processors, is said to deliver four times the performance of the IIx and twice that of the IIci.

Royal's new name rings true

Cupertino, Calif. — Apple's new outline font technology, code-named Royal, will be named TrueType, according to sources close to the company and third-party font vendors. Jim Gable, product manager of Apple fonts, said he could not comment on unannounced products, but he said Apple will make an announcement within a month. □

NEWSPAPER SECOND CLASS

MAKE YOUR MAC IIci RUN AT 25 MHz!



37% Increase with Strata 3D®

58% Increase with AutoCad®

73% Increase with Quark XPress®

41% Increase with FreeHand®

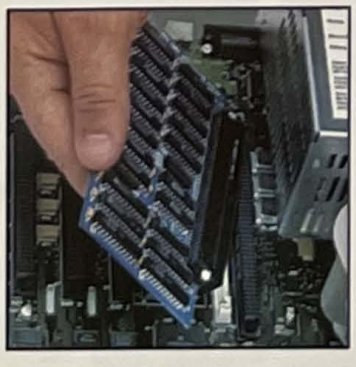
27% Increase with Swivel 3D®

60% Increase with Excel®

fast IIci **cache**

When you purchased your Mac IIci, you didn't get maximum performance.
It was designed for a plug-in cache card... *here it is!*

DayStar's Fast Cache IIci™ unleashes the full power of the Mac IIci's 25MHz processor. By storing application code in superfast 25 nanosecond memory, Fast Cache IIci lets the processor operate at zero wait-states, for maximum performance. That's why Apple® builds a special cache connector into every Mac IIci they ship!



Easy Installation
If you've ever put in a NuBus™ card, you can put in our cache card. Our pictorial manual will guide you – installation is easy and takes a matter of minutes.

Work Faster and Better
Whether it's graphics, CAD or database... you will benefit from *Fast Cache IIci*. Create time for changes that make the difference between work that is marginally acceptable, and work that is truly outstanding.

Completes the Mac IIci Design
You've invested significant dollars into your Mac IIci – *Fast Cache IIci* will maximize overall performance for only a slight increase in system cost.

Call 1-800-962-2077 today
for more information and your nearest Authorized DayStar Dealer.

DAYSTAR DIGITAL

Available exclusively through dealers and value added resellers

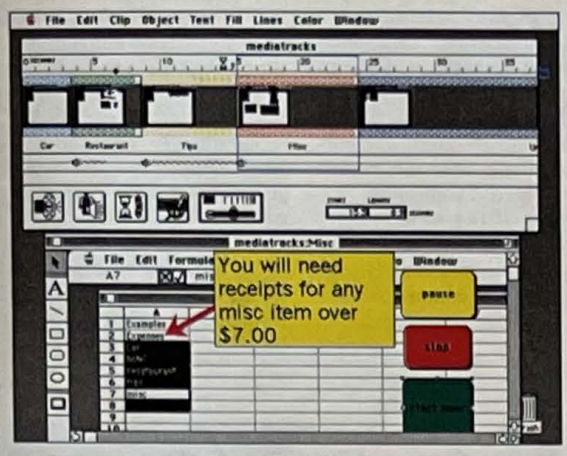
5556 Atlanta Highway, Flowery Branch, GA 30542, (404) 967-2077

SEE IT AT MACWORLD EXPOSITION BOOTH #1629

Other brands and product names are trademarks or registered trademarks of their respective holders. Product specifications are subject to change without notice. ©1989 DayStar Digital, Inc.

All percentage increases are relative to the performance of a Mac IIci with a Fast Cache IIci

This ad designed and created exclusively on a Macintosh II with a DayStar 50/030 Accelerator II.



MediaTracks combines a new version of Farallon's ScreenRecorder with a point-and-click editing system that lets users create training demos on any Mac with 1 Mbyte of RAM. Screens can be annotated with color text and PICT images.

Farallon's MediaTracks offers quick and easy multimedia

By Connie Guglielmo

Emeryville, Calif. — It lacks the flash and splash usually associated with Mac multimedia, but Farallon Computing Inc. hopes its new MediaTracks package will catch the eye of users looking for a fast and easy way to create multimedia training materials.

MediaTracks, set to ship in April for $295, combines a new version of Farallon's ScreenRecorder with a point-and-click editing system that lets users put together training demos on any Mac with 1 Mbyte of RAM (see MacWEEK, Feb. 13).

With the ScreenRecorder 2.0 desk accessory, users record Mac screen sessions — essentially all mouse and cursor movements. The resulting "tapes" can be edited screen by screen with the MediaTracks editor. Although sessions are saved only in black and white, screens can be annotated with text or draw objects in eight colors and with full-color PICT images from the Scrapbook.

The program also directly supports Farallon's MacRecorder Sound System, so users can annotate sessions with digitized sound.

"We are using it to develop in-house training materials," said beta-tester Paul Hurley, MIS director for McDonough, Holland & Allen, a Sacramento, Calif.-based law firm with 185 Macs. After creating a demo on using the Print Merge function in Microsoft Word, Hurley put the file on the network server for access by all employees. He hopes to eventually build a library of MediaTrack-generated demos.

"It wasn't sexy and it didn't have a lot of glitz, but the key thing was that I was able put it together in less than two hours," Hurley said. "The real market for [MediaTracks] is for people like myself whose job it is to help people within an organization be more productive with their software, but who have limited resources for training."

MediaTracks tapes can be saved as stand-alone applications or played with the MediaTracks editor, ScreenRecorder 2.0; a playback external command for HyperCard; or MT Player, which is a freeware application included with MediaTracks.

Farallon is offering a $495 bundle called the MediaTracks Multimedia Pack that includes the new program and the MacRecorder Sound System, which retails separately for $249.

ScreenRecorder owners can upgrade to MediaTracks for $50 or to the Multimedia Pack for $249.

Farallon Computing Inc. is located at 2000 Powell St., Emeryville, Calif. 94608; (415) 596-9100. □

Squabbles delay HyperCard 2.0

Cupertino, Calif. — Apple's long-awaited upgrade to HyperCard will soon ship to selected beta testers in preparation for May release at Apple's Worldwide Developers Conference in San Jose, Calif.

Version 2.0 was originally scheduled for mid-1989 but has been delayed for several reasons, most notably discord among members of the HyperCard team, according to sources close to Apple.

The HyperCard team reportedly has been wracked by factionalism, the sources said, with charges of elitism, a lack of cooperation and poor productivity flying back and forth among its members. Several engineers accused of slowing down work on the project are no longer on the team, according to one source.

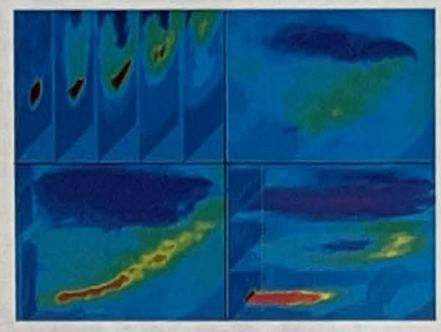
Some features originally scheduled for the forthcoming upgrade have already been dropped from specifications for the release product, but some engineers are reportedly insisting that certain features, such as enhanced musical instrument digital interface (MIDI) support, remain. "They're kind of holding HyperCard 2.0 ransom," said one industry analyst familiar with the situation.

Features expected to make it into the release include a scripting language with better support for externals, multistyle text fields with "sticky buttons," improved reporting capabilities, and stack compatibility with the rumored Apple II version of HyperCard. □

News

4 QM-QM Bridge links QuickMail message centers

5 Connect on-line service hit again by power outages



6 **Visualizing data:** *Spyglass brings scientific visualization tools to the Mac.*

6 Letraset expands, improves DTP and type lines

10 SBT adds Sales Orders, Purchase Orders modules

14 Camex offers AdStylist for retail ad inserts

15 Newbridge updates PC♥Mac networking package

18 Mycro-Tek program targets small newspapers

20 **StackWEEK** Steve Michel
Scripting languages in Mac programs need standardization.

22 **New Media** Steve Rosenthal
It's not as trendy as CD-ROM, but videodisc technology is here now.

Opinion

26 Editorial
It used to be such a fun place to work, but now Apple employees aren't so sure.

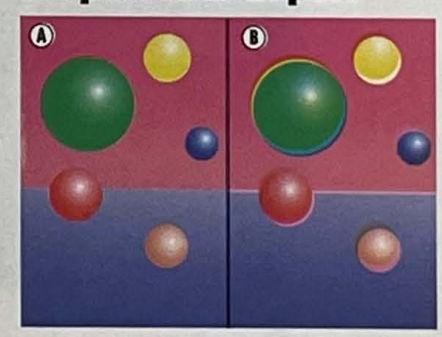
26 Letters

26 **Soapbox** Tom Hensley
A trip into Apple's 'customer support' wilderness.

28 **Help Desk** David Ramsey
Reformatting high-density disks and reviling legal weasels.

70 **Mac the Knife**

Graphic Arts Report



38 **Hands on:** *Experience and equipment are the keys to choosing the right service bureau for your color work.*

29 Type manipulation programs advance

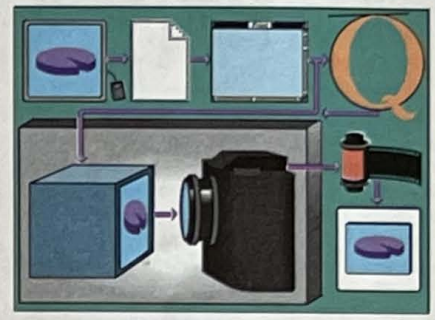
29 Array's AS-1 lowers cost of high-res scanning

31 **Boldface** Ezra Shapiro
When equipment failures hit your graphic arts setup, you should have a contingency plan ready.

35 **Cutting Edge** Laslo Vespremi
A new generation of advanced color printers may change the nature of pre-press.

38 Imagesetter evolution means new features, speed

ProductWatch



43 **Comparisons:** *Agfa Matrix's SlideWriter and ProColor, Lasergraphics' LFR 1, Mirus' FilmPrinter Plus, and Presentation Technologies' Montage FR1 vie in desktop film recorder competition.*

44 **MacInTouch**
Two new books reveal the Macintosh's inner workings; Switch-A-Roo upgrade.

48 **Review:** Shiva Corp.'s EtherGate

48 **Reviews in Brief:** ParaFont 1.02, TypeAlign 1.0.2, Microsoft Office CD-ROM

BusinessWatch

67 Apple-Honeywell federal contract still up in the air

67 Soft•Letter study compares Mac, PC software prices

68 Proposed European software law draws SPA fire

68 **MarketWEEK**
Desktop Presentations study projects high growth rate for Macintosh animation software.

52 Ad Index

55 Mail Order

56 Ad Showcase

58 Classified

65 Career Opportunities

MacWEEK (ISSN 0892-8118) is published weekly, with the exception of Jan. 2, May 29, July 3, July 17, July 24, Aug. 28, Sept. 4, Nov. 27, Dec. 18 and Dec. 25, by Coastal Associates Publishing, L.P., One Park Ave., New York, N.Y. 10016. Single copy price including postage: $5. One-year subscription rate: U.S. $75, Canada/Mexico U.S. $150, International: U.S. $300 (airmail). All orders must be prepaid. Direct subscription inquiries to Customer Service Department, MacWEEK, P.O. Box 5821, Cherry Hill, N.J. 08034; (609) 428-5000. Changes of address require that a new application be filled out completely and include both new and old address. Allow 4-6 weeks for processing. Postmaster: Send address changes to MacWEEK, P.O. Box 5806, Cherry Hill, N.J. 08034. Second-class postage paid at New York and additional mailing offices. MacWEEK is an independent journal, not affiliated with Apple Computer Inc. Apple and Macintosh are trademarks of Apple Computer Inc. Entire contents copyright 1990 Coastal Associates Publishing, L.P. All rights reserved. Material in this publication may not be reproduced in any form without permission. Request for permission should be directed to Chantal Lavelanet, One Park Ave., New York, N.Y. 10016. MacWEEK is a trademark of Coastal Associates, L.P.

QM-QM Bridge links mail centers

By Carolyn Said

West Des Moines, Iowa — QuickMail Version 2.2, an upgrade due this week to CE Software Inc.'s electronic-mail package, will include a previously unannounced enhancement that dramatically simplifies the exchange of messages between remote sites, the company said.

Called QM-QM Bridge, the new feature lets users at any QuickMail site send messages to anyone at another location where the bridge also is installed simply by entering the recipient's name and a phone number for the remote facility's QuickMail modem. Previously, linking QuickMail networks required prior arrangements to set up special gateway mail centers on both networks.

"I think you'll soon be seeing QuickMail link numbers on company stationery — phone, fax, telex, QuickMail," said Andy Clay, vice president of operational development at Brian Supply Co. of Providence, R.I. "The new bridge lets me put a message or an order form right on your desktop, immediately or later when phone rates are lowest, and all you have to do is read your mail."

Clay, a beta tester of the new bridge, added that it not only works faster and more transparently than the current QuickMail links but also offers a more robust security feature.

Other new features in QuickMail 2.2 include a NameServer designed to help users locate the mail address of any colleague in an enterprisewide system or of contacts at remote locations (see MacWEEK, Jan. 30).

The new version will sell for $499.95 per 10 pack; upgrades are $95 per 10 pack. CE also offers a variety of other pricing options, ranging from single-user packages to 50-user kits.

CE Software Inc. is located at 1854 Fuller Road, P.O. Box 65580, West Des Moines, Iowa 50265; (515) 224-1995. □

Compression boosts Fastback performance

By Edwin Garcia

Baton Rouge, La. — A new version of Fastback II that began shipping this month boosts the backup application's performance 25 percent to 300 percent, according to the publisher, Fifth Generation Systems Inc.

The new version, 2.10, features new data-compression algorithms that the company said effectively double the performance of the Apple 40SC tape drive, for example.

Other enhancements include AutoStart Init, which can launch the program and execute a macro for unattended backup sessions; preservation of AppleShare access privileges and desktop icon positions; file selection on the basis of AppleShare attributes, icon color and other criteria; and password protection of backup sets.

Besides floppies and other backup media, the new version of the $189 program supports Exabyte 8mm cassette tape systems and Gigatrend and Wangtek digital audio tape (DAT) drives, as well as the 3M MCD/II mechanism used in Fifth Generation's new 120-Mbyte Fastback Tape drive.

Upgrades to Fastback II are priced at $30.

Fifth Generation Systems Inc. is located at 10049 N. Reiger Road, Baton Rouge, La. 70809-4562; (504) 291-7221; (800) 873-4384. □

Goldfish, doughnuts join Pyro! screen show

By Henry Norr

Baton Rouge, La. — Tired of choosing between the same old fireworks and clock? Cool to the competition's puzzles, worms and doodles? Pyro! programmers Steve Brecher and Bill Steinberg last week came out with Version 4.0 of the popular Fifth Generation Systems Inc. screen saver.

Matching many of the features pioneered by Pyro!'s chief challenger, After Dark from Berkeley Systems Inc., the new program offers a modular design that allows Control Panel selection among numerous configuration options and designs, including Aquarium, Kaleidoscope and Doughnut modules. Pyro! 4.0 users also can type in text or paste in a graphic as a custom screen saver and set up password protection that remains in effect even after rebooting.

Features unique to the $39.95 program include random selection of designated modules and an option to hide the classic Mac "safe to switch off" message. The Pyro! upgrade is priced at $15.

Fifth Generation Systems Inc. is located at 10049 N. Reiger Road, Baton Rouge, La. 70809-4562; (504) 291-7221; (800) 873-4384. □

Providing You With Mainframe Solut Unexpected Side Effe

Once a year, Macintosh™ users are asked to name the best Mac-to-mainframe product. And for the past three years, the name they chose was MacIRMA.™ This has made us very happy.

But then, DCA® has been making a lot of Macintosh users happy by continuing to expand the MacIRMA product family to include 3270 coax adapters for all kinds of Macintoshes, from the SE™ and the SE30™ to any Macintosh with NuBus™ architecture.

What really wins over Mac users though, is our software. Like the MacIRMA Entry Emulator for 3278/79 terminal emulation in a CUT environment. And the newly announced MacIRMA WorkStation software which supports both DFT coax and IRMALAN™

DCA is a registered trademark and MacIRMA and IRMALAN are trademarks of Digital Communications Associates, Inc. Macint

Embattled Connect goes down three more times

By Carolyn Said

Cupertino, Calif. — Already beset by user complaints about price hikes and power outages (see MacWEEK, Jan. 30), Connect, the on-line service run by Connect Inc., has gone down at least three times this month.

The first failure, on Feb. 10, lasted mere minutes, but resulted in a loss of all messages of 1 Kbyte or smaller posted during the previous week, according to Mike Lynch, manager of marketing. The disruption caused particular problems for customers who use CE Software Inc.'s QM-Connect bridge to access Connect; one user reported receiving 6,000 copies of a blank message.

A glitch in Connect's restore program, which has now been corrected, caused the problem, Lynch said.

A storm that wiped out power to most of the city of Sunnyvale, Calif., and some neighboring communities caused a seven-hour outage on Feb. 16. A third outage, lasting five to eight minutes, occurred last week, due to causes Lynch would not specify.

"We're endeavoring to ensure that [the power outages] don't continue to happen," he said. □

New SuperLaserSpool cuts printing wait for HP DeskWriter users

By Henry Norr

Sunnyvale, Calif. — Responding to one of the few complaints from users of Hewlett-Packard Co.'s DeskWriter printer, SuperMac Technology last week upgraded SuperLaserSpool to support the hot-selling 300-dpi inkjet device.

Version 2.02 of the $149.95 print spooling utility lets DeskWriter users resume work at their Macs after only one-ninth of the time required with conventional printing, co-author Andy Nuss said.

The spooler ships with Version 2.0 of HP's DeskWriter driver and with a desk accessory that lets users preview files waiting to print, change the order of the print queue, reroute jobs to a different printer, set the size of the spooler's memory buffer and request notification when documents are done.

Upgrades are $30, or free to customers who bought an earlier version after Dec. 1, 1989. Owners of Version 2.01 do not need to upgrade unless they use the DeskWriter, SuperMac said. That version, released late last fall, included support for fractional fonts, Version 6.0 of Apple's LaserWriter driver, and several third-party hardware and software products (see MacWEEK, Dec. 12, 1989).

SuperMac also announced a new policy that lets owners of the $99.95 SuperSpool, its ImageWriter spooler, upgrade to SuperLaserSpool for $50.

SuperMac users seeking upgrade information should call the company's customer service group at (408) 773-4498.

SuperMac Technology Inc. is located at 485 Potrero Ave., Sunnyvale, Calif. 94086; (408) 245-2202. □

CD SC repair program gets underway

By Elinor Craig

Cupertino, Calif. — Apple last week officially launched a new repair program designed to correct dust-related problems that have plagued its CD-ROM player.

Dust accumulating on the lens of the $1,199 AppleCD SC has caused many users to encounter read failures (see MacWEEK, Nov. 21, 1989, and Jan. 30).

Under the program, drives manufactured before December 1989 will be repaired at no charge by authorized Apple dealers. The drive's serial number, located on its back panel, must start with F7, F8 or F9. Questions about the program will be answered by Apple Customer Relations at (408) 252-2775.

The service involves disconnecting the power connector leading to the fan and installing a new or refurbished CD-ROM mechanism. Although the fan was originally included to minimize the operating temperature, Apple said it is not neccessary to cool the unit.

Customers who paid for out-of-warranty repairs associated with the problem are eligible for reimbursement. Proof of purchase and of repair payment, along with a copy of the dealer's repair order, are required.

For reimbursement, contact the AppleCD SC Repair Extension Program, P.O. Box 78901, New Augusta, Ind. 46278; (317) 299-3600. □

n The Most Mac-To-ions Has Had An ect: Plaque Build-Up.

Gateway connections to the mainframe.

If that's not enough, there is MacIRMA Graphics software which provides mainframe graphics terminal emulation. And there's also MacIRMA API, so you can write your own programs in "C" or Hypercard to connect to the host. Best of all, every software product supports file transfer and runs on any of our boards.

You might even say we're obsessed with offering more choices in Mac-to-mainframe technology than anyone else: We've certainly got the hang-ups to prove it. For more details, please give us a call at 1-800-241-4762, ext. 57.

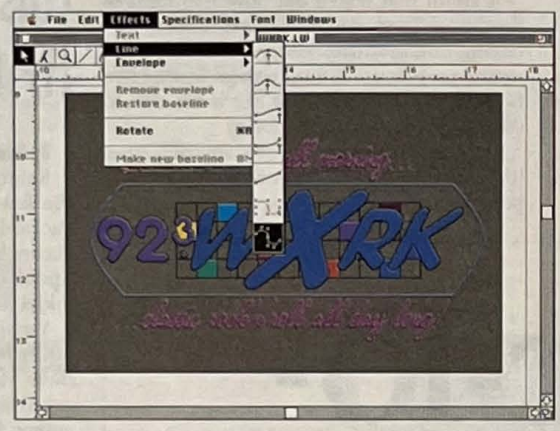
DCA

Start a file on us today. You'll need it tomorrow.

, SE, SE30 and NuBus are trademarks of Apple Computer, Inc. ©1990 Digital Communications Associates, Inc. All rights reserved.

Letraset DesignStudio gets macros

FontStudio ships, LetraFont expanded



LetraStudio 1.5, which shipped last week, adds support for Type 1 and Type 3 PostScript font formats to its array of display-type-manipulation options.

By Carolyn Said and Henry Norr

Paramus, N.J. — Continuing its assault on the Mac publishing and design market, Letraset last week announced an add-in macro language for DesignStudio, shipped its long-awaited FontStudio and LetraStudio 1.5 packages, and added 40 fonts to its LetraFont Type Library.

▶ DesignScript, due in April at a price of $125, will give DesignStudio users the capability to automate most of the high-end publishing program's functions. The DesignScript macro language includes commands for setting up a page, placing text in blocks, creating tags and drawing graphic objects, according to the company. Scripts can be created in DesignStudio, a HyperCard front end or any program that is able to produce ASCII text.

DesignScript will be particularly useful, the company said, for such documents as catalogs, price lists and directories, where material imported from a database is laid out within a relatively fixed format.

▶ FontStudio, a $595 application for creating and customizing typefaces and logos, generates downloadable PostScript fonts as well as traditional, gray-scale and color screen fonts. Among other high-level typographical features, it provides hinting, kerning and autotracing. The program supports both Type 3 and Type 1 PostScript formats, enabling users to import fonts from all electronic type suppliers for the Mac, Letraset said.

▶ LetraStudio 1.5, the latest version of the company's $495 type-manipulation package, also adds support for both Type 1 and Type 3. The original release worked only with Letraset's own LetraFont line.

▶ The LetraFont Type Library, based on the company's Instant Lettering typefaces, got 40 new fonts this month, bringing the total to 110. The additions, priced at $75 each, reflect contemporary design trends, Letraset said.

Letraset is located at 40 Eisenhower Drive, Paramus, N.J. 07653; (201) 845-6100. □

Interleaf Publisher 3.6 unveiled

By Carolyn Said

Cambridge, Mass. — Trying to up its so-far meager share of the Macintosh desktop publishing market, Interleaf Inc. this month announced a new version of Interleaf Publisher for the Macintosh, its workgroup publishing application.

Version 3.6 will ship in April. The program's price was reduced to $995 from $2,495 last June. Upgrades will be $99.

New features include:

▶ A gray-scale image editor for cropping, adjusting contrast, rotating, and manipulating scanned images in other ways.

▶ Enhanced import capabilities, adding support for graphics in MacDraw II, PICT2, Encapsulated PostScript and compressed TIFF format. Text file import remains limited to ASCII and Microsoft Rich Text Format.

▶ Guaranteed compatibility with all current Mac IIs, Apple monitors and LaserWriters.

Kenneth Ruehl, a customer service representative at Overload Publications, a Los Angeles-based publisher and beta site for Version 3.6, called the new image editor "very impressive."

Ruehl said, however, that Overload has encountered a variety of problems while importing images from MacDraw II and Deneba Software's Canvas 2.0, including breaks in arcs and lines, Greek symbols failing to translate, arrow heads going off-center, ovals and circles occasionally becoming elliptical, and pen weights defaulting.

Interleaf, which has come under fire for the Mac program's heavy 5-Mbyte RAM requirement, said users should turn to Virtual 2.0, a $199 utility from Connectix Corp. of Menlo Park, Calif., to run Interleaf Publisher on 2 Mbytes of RAM. Interleaf Publisher for the Mac will take advantage of System 7.0's virtual-memory capabilities to run on less RAM, Interleaf said.

Interleaf Inc. is located at 10 Canal Park, Cambridge, Mass. 02141; (617) 577-9800. □

RSG users win upgrade price cut

Faced with an outcry from disgruntled customers, Letraset this month slashed the cost of upgrading from Ready,Set,Go!, its original desktop publishing package, to DesignStudio, its new top-of-the-line offering.

Letraset had been charging users $325 to go from the $495 Ready,Set,Go!, now billed as a "business user" application, to the $795 "professional-level" DesignStudio. But this month the company announced it has cut the upgrade price to $100. Customers who already paid for the upgrade are entitled to a $225 cash refund or a $300 rebate on future purchases of Letraset products, the company said.

"We had decided not to upgrade because of [the high price] and even to switch to QuarkXPress. If we were going to have to pay for another whole application, forget it," said Rad Proctor, systems coordinator at Compage Co., a San Francisco-based production company. "Now we'll reconsider."

Letraset plans to introduce Version 5.0 of Ready,Set,Go! later this year for users who choose not to migrate to DesignStudio. The company said DesignStudio is "optimized for performance" on the Mac II family, but some of its features work slowly on 1-Mbyte 68000-based machines. — *By Carolyn Said*

Scientific visualization software slices, dices

By Raines Cohen

Champaign, Ill. — A start-up with roots in the supercomputing community and close ties to Apple next month will introduce an array of scientific visualization tools. The new programs promise Macintosh users capabilities previously available only with custom programming on expensive graphics workstations.

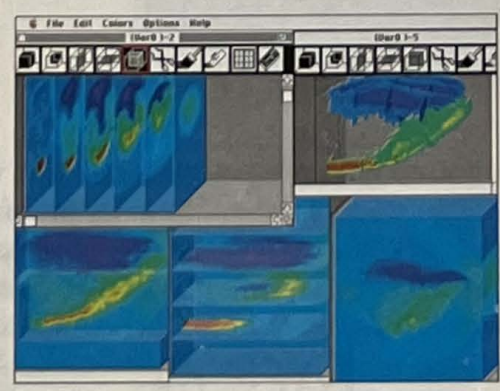
The company, Spyglass Inc., is expected to unveil four products at next month's National Computer Graphics Association conference in Anaheim, Calif.:

▶ Spyglass View displays color and gray-scale representations of data as raster images, surface plots, contour plots and dithered images. Images can be animated and their color palettes manipulated to highlight features in the data set.

▶ Spyglass Transform provides interactive visual data analysis. It allows color table manipulation and can show the correspondence between portions of the generated image and the source data set.

▶ Spyglass Format, a presentation product, will work with the other products to animate, annotate, display and print sequences of images.

▶ Spyglass Dicer will provide interactive visualization of volumetric data. It displays three dimensions of data as a color cube and allows additive and subtractive slicing, both planar and volumetric, of the data cube.



Spyglass Dicer will interact with Spyglass Transform, View and Format to provide interactive visualization of volumetric data in three dimensions, in vivid, user-controllable color.

All four Spyglass products read files in Hierarchical Data Format, a multiobject public-domain file format designed for interplatform data exchange. Widely used in computational science, the format can transfer images, annotations and numerical data together in one file.

Although the Spyglass products are new, they are already known to some scientists and engineers. "Several of Spyglass' products are based on public-domain programs developed at the National Center for Supercomputing Applications at the University of Illinois at Urbana-Champaign, with funding from Apple," said Sunil Chawla, Apple marketing manager for visualization.

Spyglass Transform and Spyglass View will ship in April for $395 each, the company said. Spyglass Format and Spyglass Dicer are due in early summer for $195 and $495, respectively. Significant higher-education and government discounts will be offered, according to the company, as well as reduced-price bundles.

Spyglass Inc. is at 701 Devonshire Drive, Suite C-17, Champaign, Ill. 61820; (217) 355-1665. □

MacWEEK

Founder & Publisher Michael Tchong

EDITORIAL
Editor Daniel Ruby
Executive Editor Daniel Farber
Managing Editor Brenda Benner

News Group
Group Editor Henry Norr
Senior Editor Rochelle Garner
Associate Editor Connie Guglielmo
Editor at Large Dale Coleman
Technical Analyst Raines Cohen
Staff Reporters John Battelle, Elinor Craig, Edwin Garcia, Pamela Pfiffner, Carolyn Said

Technology Group
Group Editor Anita Malnig
Senior Editor/Reviews Becky Waring
Senior Technical Editor Ric Ford (Boston)
Senior Writer Rick LePage (Boston)
Associate Editor Cliff Lehman
Assistant Editors Stephen Howard, Janice Maloney

Information Specialist Nathalie Welch
Copy Editors Cate Corcoran (Copy Chief), Anne Matera (DTP Chief), Kandy Arnold, Mitzi Waltz, Sue Troy
Contributing Editors Clay Andres, Don Crabb, Steve Hannaford, Vernon Keenan, Dennis Klatzkin, Jonathan Littman, Steve Michel, Steve Rosenthal, Ezra Shapiro, Laslo Vespremi, Joel West

ART AND PRODUCTION
Associate Publisher Barri Klingaman
Art Director Eleanor Leishman
Associate Art Director Laura Stoll
Designer Gary Suen
Photo Editor Jonathan Hornstein
Infographic Specialist Nevin Berger
Production Manager Carolyn Beaham West
Technical Manager Henri Froissart
Graphics Technician Rick Valdez
Graphic Artist Tamara Gargus
Ad Coordinator Michelle Gargus

MARKETING
Associate Publisher Ted Welch
Advertising Managers Nancy Carter, Jeff Cohen, Carla Daiss, Jane Fitzwilliam, Kathy Kottenbach, Michael Lamattina, Michele Lipstein
Account Executives Christina M. Dupre, Elizabeth Massengill, JoAnn Sturtridge, Deborah Tarantino
Sales Development Manager Cynthia Koral
Circulation Director Robert Smahl
Circulation Coordinator Chris Ciarraputo
Promotion Director Cynthia Ahart
Research Director Griffin Dix
Business Manager Karen Brannan
Administrative Assistants Elizabeth Carney, Jennifer Ambrulevich, Chris Vyhnalek

COASTAL ASSOCIATES PUBLISHING
Group Vice President J. Samuel Huey
Vice President J. Scott Briggs
Vice President Controller John Vlachos
Vice President Operations Baird Davis
Treasurer William Phillips
Secretary J. Malcolm Morris

Editorial and advertising offices: 301 Howard St., 15th Floor, San Francisco, Calif. 94105; (415) 243-3500. Boston editorial office: 4 Cambridge Center, Third Floor, Cambridge, Mass. 02142; (617) 497-2600.

MacWEEK is produced using an in-house system of: Apple Macintosh SEs and Mac IIs; LaserWriter, Varityper VT-600 and VT-600W, and QMS ColorScript 100 printers networked on Farallon PhoneNet; a Linotronic 300, Nikon LS-3500 Slide Scanner; RasterOps, E-Machines and SuperMac monitors; and software including QuarkXPress, Adobe Illustrator 88, Aldus FreeHand, SuperPaint, Photoshop, PixelPaint and Microsoft Word.

BPA

More Rave Reviews for the #1 SQL Database.

PC WEEK

Oracle for Mac Solves DBMS Puzzle

SQL/HyperCard Combo Produces Sophisticated Applications

By Susan Janus

Database giant Oracle Corp., of Belmont, Calif., recently rounded out the list of platforms supported by the company's relational database-management system (DBMS) with the release of Oracle for Macintosh.

The new Mac DBMS teams the power of Oracle's Structured Query Language (SQL) with HyperCard's customizable and easy-to-use interface.

This combination allows Mac developers to create sophisticated applications that appear simple to users—a unique software-development opportunity unavailable on any other platform, including the PC, according to early corporate users we contacted.

In addition, users said, the network version of Oracle for the Mac allows the advantages of the HyperCard interface to serve as a front end to existing corporate relational databases residing on other platforms, such as mainframes and minicomputers.

Consequently, the Mac software has great potenti[al] for su[pe]r[i]or

oping database-manageme[nt] systems to connect departmental Macs to larger systems. Jeff Menz, a systems analyst for a scientific R and D organization, is currently using Oracle for Macintosh to develop a system that will give the company's numerous Mac users access to an Oracle database running on a VAX. Using the networking version, Menz will link departmental AppleTalk networks to the VAX over a TCP/IP network.

Oracle Provides the Groundwork

The key benefit of Oracle's product is that "all the fundamental technical work—the protocols, the compatibility with the AppleTalk network—has been done by Oracle," Menz said. "I just have to build the HyperCard interface and do the database design work."

The result will be an Oracle relational database application on the VAX with a HyperCard front end that Mac users feel comfortable with, he explained. Also, the company will have one logical relational database instead of numerous fragmented local databases. This allows tighter security, improved data integrity and better performance, he added.

Oracle for Macintosh

DBMS Brings New Power and Face to Mac Application Development

WHAT CORPORATE BUYERS LIKE

- Offers SQL capabilities
- Uses HyperCard to mask complexity of database applications
- Serves as front end to relational databases on other platforms
- Can link different Oracle database platforms with network version
- Provides good documentation and support

"ORACLE for Macintosh is a well-designed product...a programmer can, with just an hour's training, create a database on a host with a simple Macintosh interface in three minutes—honest." ★★★★

MacUser, June 1989

"ORACLE for Macintosh is exciting for companies that have Oracle (or DB2) databases on a mainframe and want a practical Mac data entry and development system."

MacWeek, March 14, 1989

"Get yourself a copy of ORACLE for Macintosh and get a flexible toolkit that can be molded to solve just about any database problem."

MacGuide Magazine, June 1989

ORACLE®

COMPATIBILITY · PORTABILITY · CONNECTABILITY

Call 1-800-ORACLE1, ext. 7769 today.

April 15!

Only $199 until ~~Feb. 28.~~

Get the number one SQL database for Macintosh until 2/28/90 for only $199. With our 30-day money-back guarantee, the only thing you stand to lose is a great buy. Call today. Or fill out and mail this coupon.

Dear Oracle Macintosh Direct Sales
20 Davis Drive · Belmont, California 94002
1-800-ORACLE1, ext. 7769

Please send me the Stand-alone Version of ORACLE for Macintosh for $199.[1] Enclosed is my ☐ check, or ☐ VISA ☐ M/C ☐ AmEx credit card authorization for: $ 199.00

Please add appropriate sales tax $_____

Shipping and handling $ 15.95

Total *(Offer valid only in USA and only until April 15, 1990)* $_____

NAME TITLE

COMPANY

STREET *(no P.O. boxes, please)*

CITY STATE ZIP

TELEPHONE

CREDIT CARD NO. CARD EXPIRATION DATE

SIGNATURE TODAY'S DATE MAC WEEK

[1] Stand-alone version licensed for developers only. Requires Macintosh SE or II with 2 Megabytes of RAM, 5 Megabytes of hard disk space, floppy disk drive, and HyperCard 1.2. Includes 30-day installation support. ORACLE database, Hyper•SQL (HyperCard Interface), SQL•Plus, OCI and Pro•C (Macintosh Programmer's Workshop is required for programming usage), System Stacks and Example Stacks. Full networking version is $999 and includes SQL•Net (for database communications), Async, 3270, DECNet, TCP/IP support, Alisa System's TSSnet, DECnet protocol and drivers and Kinetic's TCPort TCP/IP protocol and driver. Accessing database software on other machines requires a separate protocol handler and gateway software for the other machine. Call for additional information.

Copyright ©1990 by Oracle Corporation. ORACLE is a registered trademark of Oracle. The other companies mentioned own numerous trademarks. TRBA.

MacroMind

From Page 1

Maker, a point-and-click visual editing system.

▶ MacroMind Director 2.0, due in April, offers three significant enhancements over the current version, including Lingo, a HyperTalk-like scripting language that lets users create interactive presentations. Under development for the past three years, Lingo was part of the announced, but never formally released, MacroMind Director Interactive Toolkit.

"We feel that MacroMind Director Interactive is such an important part of the development of multimedia technology ... that we're now merging it into Director," said Marc Canter, MacroMind founder. Director 2.0 will be priced at $695, the same as Version 1.0.1.

"Rolling interactivity into Director is the most important thing MacroMind has done since introducing VideoWorks (its original animation program)," said Tony Bove, co-editor of the Bove & Rhodes Inside Report on Desktop Publishing and Multimedia in Gualala, Calif. He applauded MacroMind's efforts to educate the market about multimedia.

Through Lingo's X-Objects and HyperCard external commands, Director now can control external audio and video devices. This enables users to add CD-quality sound and full-motion video to Director presentations, as well as output presentations frame-by-frame from Director using animation controllers such as the DQ-Animaq controller from Diaquest of Berkeley, Calif.

In addition, Director 2.0 now offers full support for 32-bit color, allowing users to create 24-bit color images with Director's built-in paint program, then animate them.

The program also includes a new version of the MacroMind Player, a runtime utility that lets users play back Director animations, that supports interactivity.

Director owners can upgrade to Version 2.0 for $100. Users who purchase Director 1.0.1 before April 30 can upgrade for free.

The company also said it is discontinuing its VideoWorks II product line but will offer VideoWorks II owners who purchased the program before Feb. 21 a chance to upgrade to Director 2.0 for $250. Users who purchase VideoWorks II after Feb. 21 can upgrade for $400. Both offers end June 30.

MacroMind announced an April release for MacroMind Director 2.0, a major upgrade of its $695 animation program with a built-in 24-bit color paint program.

▶ The other addition to the company's line is MacroMind Three-D, a $1,495, 32-bit color program due in the second quarter.

Three-D is made up of three modules that work together to produce 3-D animations: 3DWorks, RenderWorks and ImageWorks.

3DWorks is described as an animation studio, where users manipulate models, cameras and lights in a 3-D space.

RenderWorks renders models, which can be imported from such 3-D modeling and CAD programs as Super3D, Swivel 3D and AutoCAD, using realistic light and shading techniques. Rendered images can be output in the RIB file format supported by Pixar's RenderMan photo-realistic scene description language, due out as a developer's kit this summer for the Mac, for more-sophisticated rendering, Canter said.

The ImageWorks module lets users create anti-aliased composites of animations before outputting them either as a series of still images or as PICS files for use in Director 2.0. ImageWorks also contains controls for outputting animations to videotape via animation controllers.

MacroMind Inc. is located at 410 Townsend St., Suite 408, San Francisco, Calif. 94107; (415) 442-0200. □

Layoffs

From Page 1

But the end may not yet be in sight. Although LeVasseur said, "As of today there are no more layoffs," sources close to the company said more staff reductions lie ahead. "We will continue to very carefully monitor our expenses, the economy and the industry, and make other changes as warranted," LeVasseur said.

The investment community reacted positively to the news. "There's a lot of fat at Apple. All of us would like to see the company spend its money more effectively," said Peter Rogers, an analyst at Robertson Stephens & Co. of San Francisco. "The event itself is encouraging because it means Apple is moving expeditiously through the process of reviewing all its costs and programs."

The laid-off employees represent 3 percent of the company's work force. While 280 of the layoffs occurred at Apple's headquarters here, 50 were in Chicago and the remainder elsewhere. The dismissals spanned all levels of personnel up to the rank of director. One terminated employee grumbled, "The layoffs were totally haphazard. Some of the best people were laid off; some mediocre ones are still there."

The layoffs swept through Apple USA, the former domain of the recently resigned Allan Loren, which includes the Marketing and Distribution Groups. Human Resources, Finance, and Community and Government Affairs were also affected.

Particularly hard-hit was Apple's Customer Service and Information Technology group, under Vice President Morris Taradalsky. Apple's Midwest distribution facility in Rosemont, Ill., will be consolidated with the Charlotte, N.C., facility, which will no longer have service and support representatives. Field service representatives will move to a new, centralized support center in Cupertino.

Apple's director of customer service, Taylor Pohlman, said the layoffs would not jeopardize plans for new support services.

"The restructuring eliminates a lot of overhead and duplication, and now the support elements from around the company have all been consolidated around Morris Taradalsky," Pohlman said.

Despite the heavy cuts in service and support, some dealers said they felt that a leaner Apple would be more responsive to their needs. "A lot of dealers feel, 'Just get out of our way, Apple, and stop messing things up.' If this can serve that end, then all the better," said Dan Neesly, founder of Milwaukee-based North Shore Computers.

Laid-off employees will receive full pay and benefits for 60 days, plus severance pay based upon their rank, salary and length of service. Apple is providing counseling and other services to help fired employees find new jobs.

But some company benefits were eliminated immediately, including employee accounts on AppleLink — for many the primary means of communication both inside and outside the company.

Now that the layoffs have been put into effect, there is a "sense of relief" at Apple, LeVasseur said.

"I didn't like how long it took for them to do it — too many rumors spread," an employee said. "I had to go in early to find out I got laid off today." □

HP printers

From Page 1

priced at $275, while the PostScript cartridge, which the interface currently requires, will list for $695 when released in April. HP also recommends memory upgrades for PostScript printing.

The bottom line: A LaserJet III configured for the Macintosh will list for $4,355, while a comparably equipped IIP will have $3,455 price tag, and a fully loaded IID will go for $6,060. But street prices will be much lower: Third parties offer the recommended memory for much less than HP does, and dealers in the MS-DOS printer market typically discount the HP printers by 30 percent or more.

That means that LaserJet III with Adobe PostScript and AppleTalk should be widely available for $3,000 or less. After last week's price cuts, Apple's LaserWriter IINT lists for $4,499, but discounting on Apple printers has not, so far, matched HP standards.

Several third-party vendors have already broken the $3,000 barrier for PostScript printing, but not with a genuine Adobe interpreter. And only the LaserJets offer what Craig Cline, associate editor of the Malibu, Calif.-based Seybold Report on Desktop Publishing, called "the usual HP reliability and fit and finish built in."

Another selling point for the new LaserJet III is its proprietary resolution enhancement technology. A custom chip on the printer's logic board adjusts the size and position of each dot, generating smoother edges, sharper points and cleaner intersections.

While HP will market the AppleTalk versions as its Mac laser-printing solution, third parties will offer individual Mac users even less-expensive ways to use the LaserJets. Insight Development Corp., the Emeryville, Calif., company that wrote the Mac drivers for HP's interface kit, said that MacPrint, its $149 printer-driver package, will drive the LaserJet III as well as the older models. The program, which will be sold by HP dealers, already takes advantage of the new printer's resolution-enhancement technology, Insight said. A free upgrade due next month will add support for the printer's built-in Compugraphic fonts and the scaling, rotation and other special effects provided by PCL Level 5, the latest version of HP's printer-control language. □

ENHANCE YOUR IMAGE

Scott Gallup

256 grays colors | 80+ filters | HIGH speed | A text
color averaging | histograms | polygon selection | "add" lassoes
ghosting | gradient fills | smart lassoes | smudge

Compare Enhance™ to Digital Darkroom™ or ImageStudio™.

Enhance is faster! It has more filters! It supports multiple windows, additive lassoes, and polygon selection regions. Back this up with comprehensive on-line help screens—and a host of other features—and you have a truly powerful package!

Only Enhance has the power professionals need to manipulate gray scale images.

IRON-CLAD GUARANTEE

Buy Enhance for just $375. If you don't agree we beat the competition hands down, simply return the entire package within 30 days for a full refund.

CALL NOW (800) 388-8109

Enhance™ "The Professional's Tool"

MicroFrontier Inc.
7650 Hickman Road
Des Moines, IA 50322

Requirements: Mac II, IIx, IIcx or IIci, 2 Mb RAM, gray-scale / color monitor, 8-bit or better video card.
©1990 MicroFrontier, Inc. "ImageStudio" & "Digital Darkroom" are trademarks of their respective holders.

Price cuts

From Page 1

to deliver new low- and intermediate-cost versions of the Mac to compete with increasingly powerful yet inexpensive IBM PC clones. Last month Apple posted a decline in net income in the first quarter of fiscal 1990, caused partly by lower-than-expected units sales of the Mac Plus, Mac SE and Apple II models (see MacWEEK, Jan. 23).

"Usually when people say lower-end Macs, they mean lower-priced," said Ash Jain, publisher of the Macintosh Market Report in Irvine, Calif. "The Mac Plus and SE have not sold well over the last quarter, and sales have been far below expectations. When you have a large inventory of models that are not moving, you need to offer people an incentive to buy."

Jain also said the price cuts on the printers were long overdue. "If you compare Apple laser printers with other third-party products and look at what Hewlett-Packard is doing," Jain said, "there has been tremendous pressure on Apple to be more competitive." (See related story, Page 1.)

Effective as of last week in the United States, the price of a Mac SE with 1 Mbyte of RAM and an internal 20-Mbyte hard disk dropped 14 percent, from $3,469 to $2,969. The 2-Mbyte model with a 40-Mbyte hard disk was cut 17 percent, about $700, down to $3,369.

Pricing on the Mac SE/30 with 1 Mbyte of RAM and a 40-Mbyte hard disk was cut $500 to $4,369, while the 4-Mbyte version with an 80-Mbyte hard disk was dropped $1,000, or 15 percent, to $5,569.

The Apple announcement did not mention the Mac Plus, which carries a suggested retail price of $1,799, including CPU, keyboard and mouse. "We already feel the price of the Mac Plus is competitive when compared to similarly configured systems on the market," said Apple spokeswoman Cindy McCaffrey.

The price cuts should be welcome news to retailers, who have been reporting declining Mac sales at the low end for some time, according to Storeboard Inc., a Dallas-based research firm.

During the last four months of 1989, computer retailers sold slightly more than 24,000 units of the Plus, down 16 percent from the same period in 1988. Mac SE sales slipped even further, down 53 percent to about 29,000 units compared with the same period the year before, Storeboard said. □

Video card

From Page 1

graphics arena, until now the domain of third-party vendors.

The new NuBus card uses a 30-MHz Am29000 RISC microprocessor from Advanced Micro Devices Inc. of Sunnyvale, Calif. According to Advanced Micro's specifications, the chip delivers sustained processing of about 20 million instructions per second.

In Apple's new offering, the special-purpose RISC chip will be used to execute the proprietary routines that perform all on-screen graphics operations on the Mac. At startup, a version of 32-bit QuickDraw will be loaded onto the chip, relieving the main CPU of the burden of graphics processing. Fills, moving windows, drawing objects and scrolling will be five to 30 times faster depending on the operation, sources said.

The design permits Apple to modify QuickDraw in future releases without making the board obsolete.

The board will come with 2 Mbytes of RAM, expandable to 8 Mbytes with a memory expansion kit, as well as a frame buffer and processor memory. Apple's QuickDraw accelerator will not speed up 24-bit video display cards from other vendors, sources said.

While final pricing has not been determined, the minimum configuration could sell for as little as $2,000, according to sources.

Other features will include:

▶ The ability to convert the Mac's non-interlaced scanning to support video products based on NTSC (National Television System Committee) standards, allowing images to be output to videotape.

▶ An additional option to support PAL, the video standard used in Europe, and SECAM, the French video standard, sources said.

The accelerator will reportedly work with Apple's 13-inch color monitor. QuickDraw accelerators from SuperMac Technology of Sunnyvale, Calif., and Radius Inc. of San Jose, Calif., work with the same Apple display, as well as with larger monitors under their own labels.

Apple will offer two versions of the unaccelerated video display card: One will support four-and eight-bit graphics, the other eight- and 24-bit displays. Users will be able to upgrade from eight-bit to 24-bit mode with a video RAM expansion kit.

Apple's list price for the eight-bit board is expected to be about $650, while the 24-bit version will sell for around $900. □

Symantec: Play it again, SAM

By Henry Norr

Cupertino, Calif. — Symantec Corp. plans a new release of SAM (Symantec AntiVirus for Macintosh) that is designed to let users stay ahead of the latest contagions without frequent upgrades to the program.

Highlighting the new release, which is due next month, is a Virus Definition feature that lets users enter data the program can use to detect new viruses, along with a 24-hour Virus Newsline to provide such information.

Other enhancements include background operation of SAM's Virus Clinic scanning and repair application under MultiFinder; user-definable macros that make it easy to launch specific scanning routines; a Short Menus option to hide the program's complexities from novices; and several features aimed at network administrators, including customizable alerts, beefed-up configuration locking and an audit-trail option.

Symantec declined to give a price for the new release. The current Version 1.5 is priced at $99.95.

Symantec Corp. is at 10201 Torre Ave., Cupertino, Calif. 95014; (408) 253-9600. □

Trade show rentals available nationwide

Short and long term Apple® rentals for business or trade shows.

FREE on-site maintenance.

THE COMPUTER FACTORY

Apple Macintosh® SE

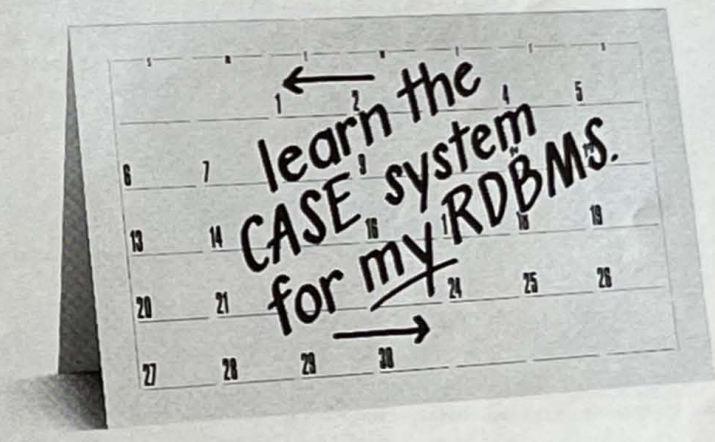
- Compact and transportable
- Built-in expansion slot
- Available in a full range of configurations
- Easy to learn, easy to use

Authorized Dealer

See you at MacWorld® in San Francisco

Trade Shows	(212) 953-2233	Washington, DC	(301) 816-9003
New Jersey	(201) 752-1313	New York	(212) 682-0346
Boston	(617) 348-2911	Philadelphia	(215) 889-7313

Apple, the Apple logo, Macintosh, and MacWorld are registered trademarks of Apple Computer, Inc.



YOU'VE GOT 30 DAYS TO PROVE YOU'RE DEFT.

YOU'LL ONLY NEED 60 MINUTES.

Deft supports ORACLE,® INGRES,® SYBASE,® Rdb,® INFORMIX® and DB2.® For your own FREE copy of our Trial Package, please call (416) 249-2246.*

*Qualified callers will receive a no-obligation, Free trial for 30 days.

DEFT

CASE with A Deft Touch

SBT adds sales, purchase modules

By Edwin Garcia

Sausalito, Calif. — Software Business Technology Corp. last month filled out its SBT Mac/Series Six Plus multi-user accounting line with the addition of Sales Orders and Purchase Orders modules. The new modules, like others in the SBT series, cost $695 each.

SBT Sales Orders generates schedules, maintains sales orders and back orders, tracks inventory, and writes sales orders and COD tags. It shares inventory data with SBT Purchase Orders, and can be used separately or integrated with SBT Accounts Receivable and SBT General Ledger. When the new module is linked to SBT Accounts Receivable, invoices are automatically created as items are shipped.

Purchase Orders provides inventory control and order processing. It creates purchase orders, tracks goods and services ordered, automatically updates vendor and inventory account balances, and supplies a variety of reports. Purchase Orders can be linked directly to the accounts payable module and integrated with the general ledger program.

SBT's Mac system runs under Fox Software Inc.'s FoxBASE+/Mac. Each module is shipped with source code, so users can make modifications to suit their accounting needs.

Software Business Technology Corp. is located at 1 Harbor Drive, Sausalito, Calif. 94965; (415) 331-9900. □

Network option for new Timeslips

By Edwin Garcia

Essex, Mass. — Timeslips Corp. this month announced a network version of its Timeslips III time and billing package as well as an upgrade to the single-user version.

The $699.95 network edition, which licenses up to five workstations, is due in April. The company, which was known until last December as North Edge Software Corp., said Version 2.0 of the single-user Timeslips III will ship next month. It is priced at $299.95.

Both new versions offer more than 100 enhancements, including a security system that lets administrators set access rights and passwords for four different groups; a layout editor for creating customized bills and reports with graphics, lines and boxes, and variable fonts; an abbreviation-expansion feature for frequently used phrases; custom messages for all or selected bills; and increased capacity, up from 2,000 clients to 3,400.

Designed for lawyers, accountants and other professionals who bill by the hour, the program has two modules. The TSTIMER desk accessory stores information such as billing rates and hours charged. The second module, TSREPORT, lets users access data to produce bills, analyze data, and generate a variety of summary and detail reports.

Registered owners of Timeslips III 1.1 can upgrade for $75 before April 30 or for $100 after that date. The network upgrade is $400 before April 30 and $500 after.

Timeslips Corp. is located at 239 Western Ave., Essex, Mass. 01929; (508) 768-6100. □

QM-2 coordinates Mac, PC slide processing

By Matthew Rothenberg

Minneapolis — Management Graphics Inc. has released a new version of its QM Network Concentrator, a $65,000 telephone-linked networking system that coordinates the processing of Macintosh and IBM PC presentation graphics files from multiple users working simultaneously.

Intended for service bureaus and corporate in-house production departments, the QM-2 Network Concentrator accepts data from up to 16 phone lines, twice the number available with the original QM-1. QM-2 features 4 Mbytes of RAM and a 300-Mbyte hard disk, compared with 2 Mbytes of RAM and a 30-Mbyte hard disk in the previous configuration.

Users calling via modem or direct line can log on to the network concentrator from any type of microcomputer or ASCII terminal, according to Management Graphics. QM-2 automatically generates an invoice or work order for each file before routing it to an output device; the file can then be processed as a slide or print.

QM-2 comes with Quickchart, a menu-driven chart-design program that enables on-line users to produce standardized presentation graphics.

Management Graphics also distributes Easy Slider, a $149.95 program that supports the PICT2 Mac graphics format, and MGITalk, a $99.95 package that supports files created by leading IBM PC business graphics packages.

Management Graphics Inc. is located at 1401 E. 79th St., Minneapolis, Minn.; (612) 854-1220. □

INTRODUCING NEW DISKLOCK

Unbreakable password protection for the Macintosh

It's sad but true. All it takes is a few minutes with your back turned, and an intruder could walk away with your most confidential data. *And you'd never even know it!*

Unsurpassed Password Protection
Now the leader in hard disk security announces the ultimate data protection system for your Macintosh. **DiskLock** works with any SCSI hard disk to provide foolproof password protection for individual files, folders, or your entire hard disk. You can even protect *all three levels* with different passwords for absolute maximum security. **DiskLock** automatically locks your files when you shut down or leave your Mac unattended, and alerts you to any unauthorized access attempts.

Sophisticated Data Encryption
State-of-the-art data encryption adds yet another layer of security. Without the proper password, your confidential files appear to contain nothing but gobbledygook!

Multiple Security Levels.
DiskLock lets you give each user password access to *just the files you choose* (word processing files for your secretary, accounting files for your bookkeeper, etc.). The *master* password gives you access to all files and folders.

Virus Protection, too!
If **DiskLock's** automatic virus checker detects an infection when you log in to a file, it notifies you and stops running immediately.

Visit us at Macworld Exposition
Moscone Center, San Francisco
Booth 2137

5 FIFTH GENERATION SYSTEMS

10049 N. Reiger Road Baton Rouge, LA 70809 (504) 291-7221

For a complete list of features and specifications, or the name of your nearest dealer, call 1-800-873-4384.

DATA STORAGE

- SCSI Hard Disks
- DAT & Removable
- Streaming Tape
- Rewritable Optical
- 20 MB to 2,022 MB
- Fast as 5.4 ms

MicroNet offers a wide range of Macintosh storage products that easily match any configuration.

We specialize in MacWren hard disks that are industry known for their performance and reliability. Our Overlapped Seek Systems offer access times as fast as 5.4 ms.

MicroPak Transportable hard disk drives are cost effective and are popular for transporting data between computers.

Don't choke your IIcx/IIci with a 3.5" hard disk! Our unique 5.25" internal systems are 66% faster than a 3.5" Quantum hard disk.

Our Optical Systems allow you to have nearly 600 MB of rewritable storage on one disk. These M/O systems have the best access time and the highest transfer rate of all.

For serious data backup we offer 1.3 GB Digital Audio Tape, Streaming Tape to 525 MB and our 20 ms, 45 MB SyQuest Removable Winchester Cartridge System.

Call for data sheets and the name of your nearest dealer.

"QUALITY YOU CAN COUNT ON"

Macintosh, SyQuest and Quantum are registered trademarks

We offer the finest in Internal and External Hard Disk Drive Systems from 20 MB to 2,022 MB, Tape Backup to 525 MB, 45 MB Removable Cartridge, DAT and Rewritable Optical Systems.

MicroNet Technology

MicroNet Technology, Inc.

20 MASON • IRVINE, CA 92718 • TELEPHONE: (714) 837-6033
FAX: (714) 837-1164 • APPLELINK: D1656 • COMPUSERVE: 76004,1611 • CONNECT: MICRONET

Let's say you have a sud

The Colormate™ PS simulates 736 PANTONE colors.

Until now, getting truly high-quality color images of your work meant just one thing. Photographing your design, sending out for development, and then converting your prints to color copies or transparencies.

Enter the Colormate PS printer from NEC.

Its PANTONE®* certification, powerful microprocessor, and advanced thermal transfer technology let you create vivid, high-resolution color output in-house. In minutes.

And with 8 MB of memory and an Adobe® PostScript® interpreter, the Colormate PS simplifies complex tasks. Like handling detailed artwork and photography. Printing transparencies. And using software like Adobe Illustrator 88,™ Aldus PageMaker® and FreeHand,™ and Harvard Graphics.™

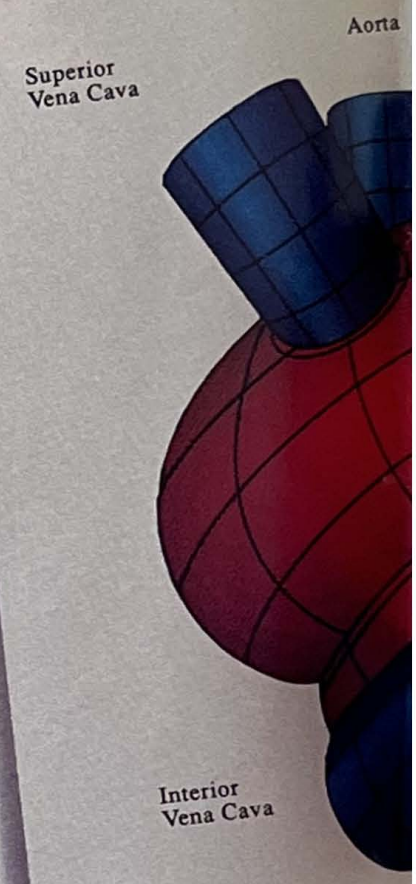
But perhaps its most beautiful feature is that it lets you change your color output almost as quickly as you (or your client) change your mind.

Whether you do business graphics, CAD/CAM, or graphic design, all your ideas will look brilliant.

Hypothetical situation: You suddenly realize key parts of your model need to be more clearly defined. And your presentation is in an hour.

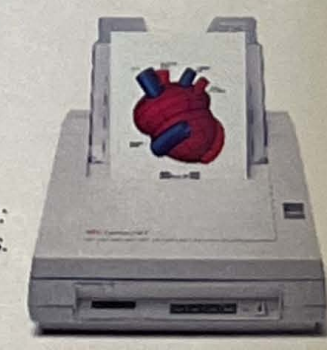
If you have the Colormate PS, you have it made. You can change a color and minutes later you have four copies and a transparency.

Sound easy? Well, it is.



The old way: Days and weeks.

The new way: Minutes and ours.

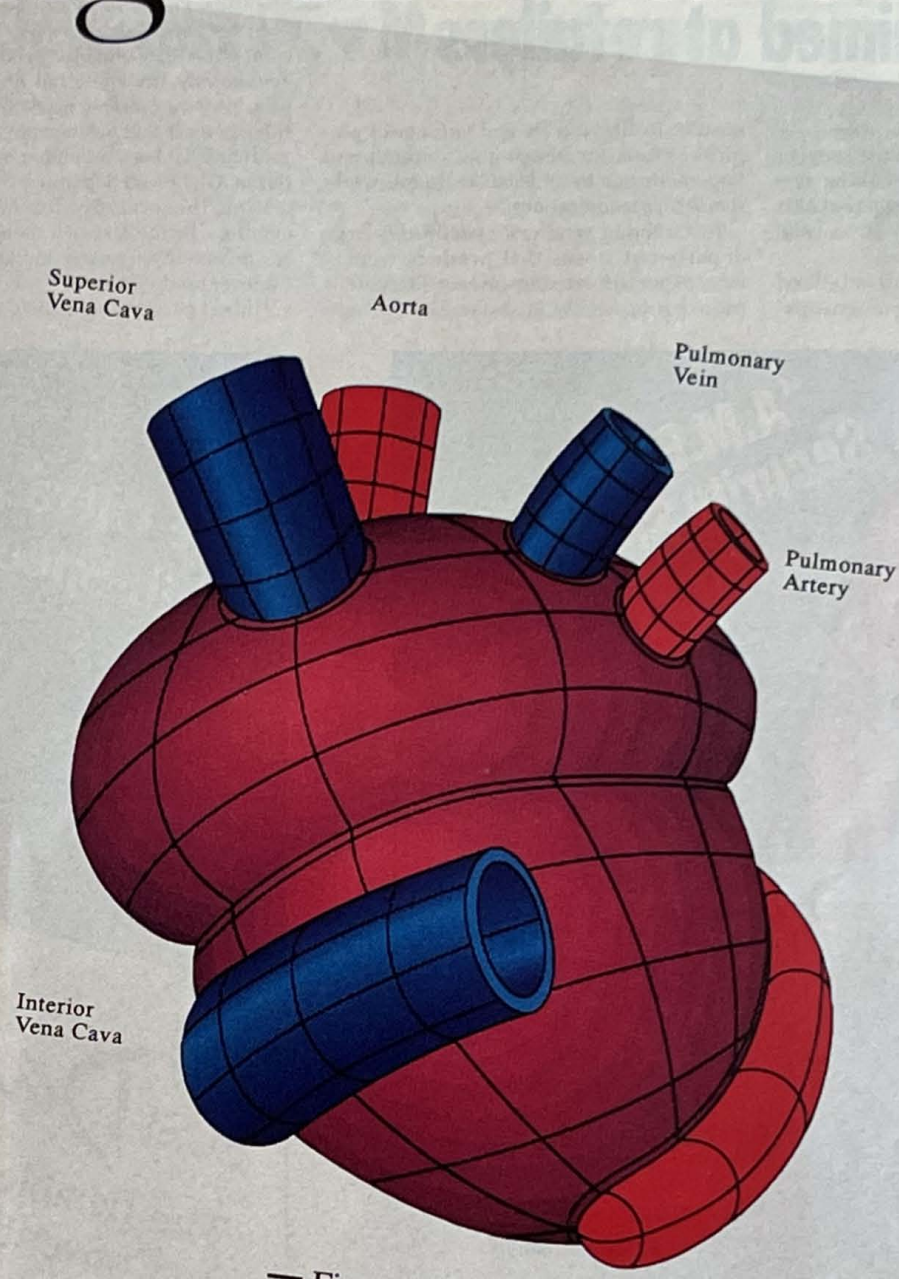


C&C Computers and Communications

NEC Technologies, Inc., 1414 Massachusetts Ave., Boxborough, MA 01719. 1-800-NEC-INFO. In Canada, 1-800-343-4418.
*Pantone, Inc.'s check-standard trademark for color reproduction and color reproduction materials.

den change of heart.

— Figure 36 —



— Figure 36 —

For lots of reasons.

Like a 16-character status display that provides menu-driven messages. No DIP switches. An autosense mechanism that adjusts the printer to the ribbon. And a compact design that makes it easy to fit in your office.

Specifications:
Resolution: 300 x 300 dpi
Output Media: Cut-sheet, paper or transparency
Memory: 8 MB RAM
Page Description Language: Adobe PostScript
Dim.: 17″W x 18″D x 9½″H
Print Method: Thermal transfer
Features: Pantone certification, 35 resident Adobe fonts

Naturally, should you decide to buy a Colormate PS printer, you'll find that it's built with the same superior quality that goes into all NEC products.

After all, some things never change.

NEC

WE'RE MAKING THINGS BETTER FOR YOU.

© Copyright 1990 NEC Technologies, Inc. Colormate is a trademark of NEC Corp. Adobe and PostScript are registered trademarks and Illustrator 88 is a trademark of Adobe Systems, Inc. Harvard Graphics is a trademark of Software Publishing, Inc. PageMaker is a registered trademark and FreeHand is a trademark of Aldus Corporation.

AdStylist aimed at retailers

By Carolyn Said

Boston — Camex Inc., a leading supplier of Sun workstation-based publishing systems, entered the Macintosh market this month with AdStylist, a display-ad makeup program.

Targeted at newspapers and retailers, AdStylist can be used in a Mac-only environment or its files can be sent to Camex's prepress system for imaging on its high-end SuperSetter or to its $50,000 Breeze workstations for modifications.

In targeting retailers, specifically large department stores that produce weekly newspaper advertising inserts, "Camex is pioneering a new area for Macs," said Stephanie Piché, AdStylist sales director.

In the newspaper market, AdStylist will compete with Color AdSpeed from Digital Technology International of Orem, Utah. (The program also is marketed by System Integrators Inc. of Sacramento, Calif.)

Monica Hubert, a graphic designer in the Boston Globe's ad department, has been beta testing the program for more than 10 months. "In the last two months, AdStylist has definitely surpassed any layout program I've ever used," she said.

Hubert cited the program's alignment features, graph paper capabilities, frame editor and blueline feature as being among its strong points.

On the negative side, AdStylist does not totally conform to the standard Mac interface, she said. For example, to change formatting of text in the middle of a text block, the user must insert typesetting codes before and after the text.

A Mac IIcx AdStylist workstation sells for about $11,700; the software alone is $2,495.

Camex Inc. is located at 75 Kneeland St., Boston, Mass. 02111; (617) 426-3577. □

"A.M.E. sets New Security Standard"
MacWEEK 1/16/90

A.M.E.®

Security & Virus Protection

Logs software & hardware activities

Protects against illegal copying

Prevents launching of unauthorized programs

Multiple levels of Users with individual/group access controls

Specific Desk Accessory Control

Multiple encryption/ password options

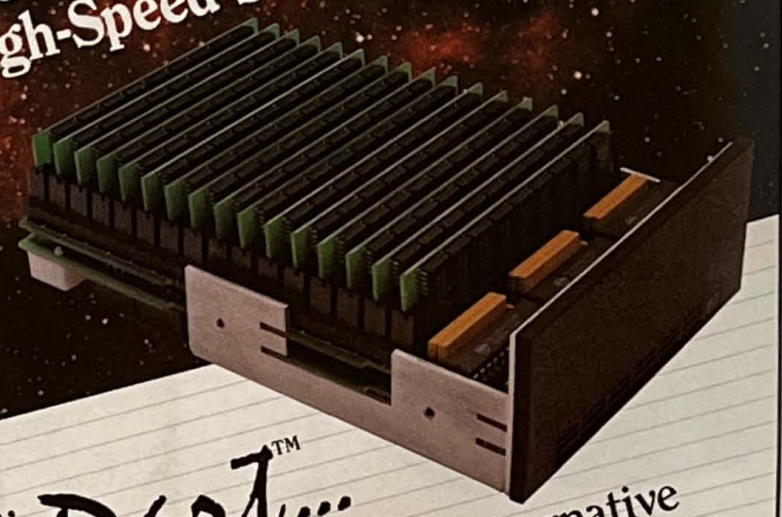
A.M.E. is an integrated security program. Whether your concerns are managing a confidential government project, maintaining order on a Mac™ used by many people, or just preventing your child from destroying financial records, A.M.E. has a solution for you. It runs quietly in the background and is always there to protect you. The easy-to-use interface lets you set up the Mac with just the kind of security you require.

Access Managed Environment

Call today for a Free Brochure 800 359-4920

Casady & Greene, Inc.
P.O. BOX 223779 • CARMEL, CA 93922 • 408 • 624 • 8716

The Ultra High-Speed SCSI RAM Drive



New SCSI Dart™...

The flexible, Non-Volatile, alternative to Conventional Disk Drives!

The SCSI Dart™ Ultra High-Speed Solid-State RAM Disk delivers ultra-fast 0.1 millisecond access times. And because it's designed around the popular 3½-inch form factor, Dart™ can be used for a direct plug-in replacement of conventional disk drives. Or, it can be housed in a zero-footprint external chassis.

Dart™ allows you to build the capacity you need, too. Using snap-in 256K, 1MB, 4MB or 16MB SIMMs, or a combination of those, up to 512MB is possible. For non-volatile performance and data security there is a UPS (battery backup) built into the unit.

What applications are candidates for the power of Dart™? Any application slowed by mechanical disk drive performance such as CAD, Desktop Publishing, Engineering, etc.

The Newest Technology in Memory

MACWORLD EXPOSITION Booth #5648

Designers and manufacturers of the Newest Technology in Memory for Macintosh®, Compaq®, IBM® and compatibles.

Call Our Memory Hotline For Prices and Discounts
1-800-678-DRAM (678-3726)

4MB
High, Medium & Low Profile 16 - 32MB for Mac SE/30, II, IIx, IIcx, IIci

1MB
2 - 8MB for Mac Plus, SE, SE/30, II, IIx, IIcx, IIci

256K
Low Profile 1 - 2MB for Mac Plus, SE, SE/30, II, IIx, IIcx, IIci

MAXIMA™ or FASTdrive Software Bundled With 1MB & 4MB SIMMs

Have up to 15MB of "real" System 6.x operating system memory, or 24MB of RAM drive. We stock 256K, 1MB and 4MB SIMMs for the Macintosh Plus, SE, SE/30, II, IIx, IIcx and IIci, and offer GuaranTeed Same Day Shipment. We also stock LaserWriter II NTX SIMMs.

1117 S. Rock Rd., Suite 4, Wichita, KS 67207
Phone (316) 685-4904
FAX (316) 685-9368

Newer™ TECHNOLOGY

Newbridge updates its low-cost PC♥Mac package

By Carolyn Said and Henry Norr

Herndon, Va. — Newbridge Networks Inc. this month updated PC♥Mac, a software package that promises low-cost, easy-to-use multiplatform networking via Newbridge's own MainStreet data controllers, and related software for circuit-switched systems from American Telephone and Telegraph Co. and other leading vendors.

The package, which includes a Mac desk accessory and a RAM-resident MS-DOS program, lets authorized users share such peripherals as printers, plotters and modems; browse directories on networked machines; and transfer files in the background, even to or from unattended machines. Files selected in a Font/DA Mover-style window can be transferred as plain-text or binary files or in "transparent" format for use by a compatible application on the other platform. File names are converted to their Mac or IBM PC equivalents.

Users of the peer-to-peer network establish links to another available computer or peripheral by selecting it from the Chooser. The software, which supports speeds ranging from 300 bps to 38.4 Kbps, provides error correction, password protection and an optional log file. It also allows the Mac to function as an ASCII terminal for accessing host computers or bulletin boards. A scripting language can be used to handle equipment configuration, modem dialing and host log-on routines.

For use with Newbridge's MainStreet data controllers, PC♥Mac is priced at $350 for a license that covers 16 Macintoshes or IBM PCs and compatibles. The serial controllers range from a minimal $800 unit with ports for eight computers or peripherals to high-speed 56-port models priced at more than $9,000. Up to 32 data controllers can be connected to support almost 1,700 users.

The Newbridge system is designed not only for economy, but also for simplicity, according to Warren Belkin, general manager of the company's local networking division. "It's one networking scheme that doesn't require a technical guru or a consultant," he said.

Newbridge also offers versions of EasyStreet that provide PC-Mac networking through the Rolm CBX series of voice/data PBXs; AT&T's #5ESS and Northern Telecom Inc.'s DMS-100 ISDN (Integrated Services Digital Network) switches; and the AT&T Datakit. For these environments the EasyStreet software costs $130 per user, with discounted site licenses available. Rolm, now an IBM-Siemens joint venture, will market the Newbridge EasyStreet package to its customers.

Newbridge Networks Inc. is located at 13873 Park Center Road, Herndon, Va. 20271; (703) 834-3600. □

EDCO to give PM 4.0 customized tracking

Tampa, Fla. — Desktop publishers looking forward to PageMaker 4.0's enhanced typographical controls may still find some features missing, according to EDCO Services Inc., and EDCO is offering to fill the gaps in the Aldus Corp. package with a $99 utility.

Called PM Tracker, the program is due March 1, the day Aldus plans to release its latest upgrade. The new PageMaker will offer users a choice among five preset tracking values; PM Tracker will make it possible to edit each option to one-tenth of 1 percent. Because it adjusts intercharacter spacing in relative terms, no further intervention will be required when documents are transferred from a laser printer to a typesetter, according to EDCO.

In addition, the new program will allow users to adjust kerning to two-thousandths of an em. All tracking and kerning can be applied to any font from any vendor, according to the publisher.

EDCO Services Inc. is located at 12410 N. Dale Mabry Highway, Tampa, Fla. 33618; (843) 962-7800; (800) 523-8973. □

Ehman cuts Quantum prices

Evanston, Wyo. — Ehman Engineering Inc., which cut the prices of its Seagate-based external hard disks in January, this month slashed prices on its 40- and 105-Mbyte Quantum-based storage devices as well.

The 40-Mbyte external model is now priced at $479, down $120. The internal drive is now $399, down $100.

Ehman's 105-Mbyte Quantum disks also have been reduced by $100. The external model now sells for $799, while the internal disk is $699.

Ehman is at 97 S. Red Willow Road, Evanston, Wyo. 82930; (307) 789-3830. □

"I Want My MacTV™"

COLORSPACE FX

You'll want your MacTV, too—interactive-multimedia. Live, full-color, flicker-free video in a window on your Mac monitor. And the only way to get it is with ColorSpace FX. Designed to work with ColorSpace IIi, ColorSpace FX is the first low-cost, high-quality digital effects card to put broadcast-quality video on your desktop.

FX works with all the most powerful Mac software. Including HyperCard,™ Director Interactive,™ Authorware® Professional,™ and SuperCard.™ So you can combine text and video in new, exciting ways on a single screen. Spice things up with zooms, fades, spins, mirrors, and squeezes. And produce the most exciting multimedia this side of Hollywood: business training and interactive learning systems, live teleconferencing, and more.

Only the ColorSpace FX card gives you MacTV: quality,

full-motion, color video in a window.

For details and the nearest dealer, call 800-522-7979. And say you want your MacTV.

MASS microsystems

550 Del Rey Avenue, Sunnyvale, California 94086. In Canada call 604-276-2326. For international distribution call 408-522-1200. All trademarks are the property of their respective owners.

Usually, the technology available to computer users just plods along—with competing products repeating one another's so-called improvements.

But once in a blue moon there's a great leap of innovation. Something new appears that's so well thought out, so smart, that the way you work may never be the same again.

WIZ™ by CalComp, for example.

WIZ is an exciting new productivity tool. Combining the easy-to-use features of a mouse with the power of an "intelligent" graphics pad to enhance every pointing, tracing and drawing function you do.

WIZ meets the needs of virtually every Macintosh and PC user—from novice to advanced. Because WIZ gives you the convenience and flexibility of six programmable buttons, a cross-hair pointer and 1000 dpi for pinpoint accuracy, along with

Prehistoric.

1989 © CalComp Inc. WIZ is a trademark of CalComp. All product names and logos are trademarks or registered trademarks of their respective owners.

a user-definable mouse area.

What's more, WIZ unleashes the full power and speed of your software. Optional templates for most major programs eliminate tedious pull-down or bar menus. Because WIZ templates put the commands you use most at your fingertips for instant access. And for the artist in you, WIZ offers an optional pen for drawing.

There's no rolling ball or moving parts. Nothing to clean. And WIZ has a five year warranty backed by CalComp, a world leader in computer graphics for over 30 years.

But the most amazing thing about WIZ is that you get it all for an introductory price under $200.

See WIZ at your local dealer or call 800-CALCOMP.

WIZ by CalComp. Everything else is just a mouse.

WIZ

Historic.

Mycro-Tek aims Mac software at small newspapers

By Carolyn Said

Wichita, Kan. — Offering a modular Macintosh solution for small to medium-sized newspapers, Mycro-Tek next month will release an integrated newspaper software system.

The Mycro-Comp Series 2500, to be priced at about $17,500, includes modules to handle a spectrum of newspaper needs, from file management to classified billing, the company said. The Series 2500 is designed to export into QuarkXPress for pagination and output.

▶ File-management and editorial features allow text searches, copyfitting, and file retrieval by name, date, references or categories.

▶ A wire-service feature captures and processes wire-service feeds from The Associated Press, United Press International and any other service that conforms to American Newspaper Publishers Association standards.

▶ A classified ad system integrates production with pricing, billing and credit checking. Other financial features include invoicing and accounts receivable.

▶ AdWriter 2.1, Mycro-Tek's $2,295 display ad production software, allows composition of display ads.

▶ A report-generation module compiles information into one of four standard report forms included with the program. Users also can create their own report forms.

The entire system was developed in 4th Dimension from ACIUS Inc. of Cupertino, Calif. According to Dave Chadick, product manager for the system, that foundation lets users extend Mycro-Comp's capabilities.

Mycro-Tek acquired most of the software modules from Rockwell Computer Solutions, a Corning, Ark.-based value-added reseller that has installed the system at more than 80 newspapers, typically with five to 25 Macs.

"It's probably saved us 40 percent in labor," said Keith Stephens, publisher of the Newport (Ark.) Daily Independent, which uses the Rockwell system. "What we had before [a Compugraphic system] was like the Dark Ages compared to this."

Mycro-Tek also is developing Mycro-Comp Page, a $5,995 Mac front end to the Mycro-Comp text-editing system, which is installed at about 1,000 newspapers worldwide. Set to ship late next month, Mycro-Comp Page includes QuarkXPress for pagination as well as QuarkXTensions, which adds vertical justification, printing of individual stories, resizing of text containers and a jump-text capability.

Mycro-Tek is located at 9229 E. 37th St. N., Wichita, Kan. 67226; (316) 636-5000; (800) 835-2055. □

Farallon Portable Pack is on the go

Emeryville, Calif. — Farallon Computing Inc. last week began shipping the Portable Pack, a $495 kit designed to make it easy to connect the Macintosh Portable or other Macs on the go to users' home or office machines.

The kit, a canvas portfolio small enough to fit comfortably in the Mac Portable's carrying case, includes two copies each of Farallon's Timbuktu and Timbuktu/Remote programs, which allow users to transfer files and control another Macintosh's operations over a LAN or by modem, respectively. In addition, the Portable Pack includes two Farallon PhoneNET StarConnectors, extra cable extenders, cables, a screwdriver and a pocket knife.

Sold separately, the individual items retail for more than $860, Farallon said.

Farallon Computing Inc. is located at 2000 Powell St., Suite 600, Emeryville, Calif. 94608; (415) 596-9100. □

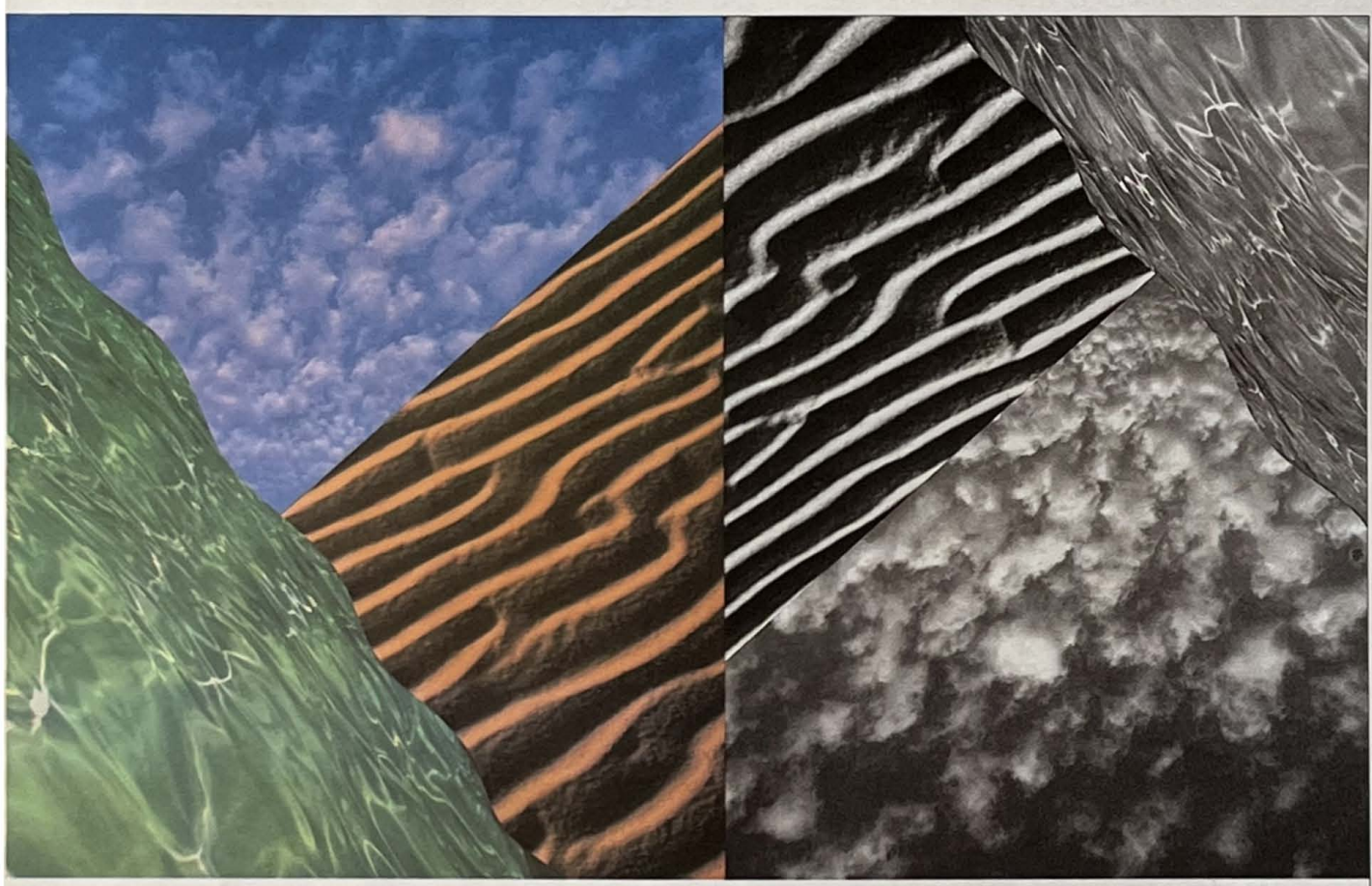
Lexpertise updates MacProof

Salt Lake City — Lexpertise Linguistic Software Inc. last month released an upgrade to MacProof, its $195 grammar-checking desk accessory. The new version, 3.2.1, lets users check documents created in Claris Corp.'s MacWrite II without losing formatting.

The program, which also works with Microsoft Word 4.0 and Aldus PageMaker 3.02, among other programs, checks for a variety of problems in mechanics, usage and style.

Upgrades are $25 with the original disk or manual cover.

Lexpertise Linguistic Software Inc. is located at 9 Exchange Place, Suite 900, Salt Lake City, Utah 84111; (801) 350-9100. □



The First Color/Gray-Scale Scanner For Under $2700!

Microtek presents the MSF-300Z. The one scanner that can do it all: color, gray-scale, drawings and text. All for a price that until now, could barely buy you gray-scale capabilities.

Hard to believe, but it's true. You can scan vivid color images into your computer for desktop publishing, presentation graphics or pre-press work. A full 16.8 million colors at a time.

If you don't have a color application yet, this unique scanner captures gray-scale as well as black and white. So you can start working today.

Images can be scanned in 256 gray-scale mode and then retouched, scaled or rotated. And printed on a laser printer or phototypesetter with outstanding results.

Charts and drawings are quickly scanned in single bit-per-pixel mode then imported into your favorite publishing or word processing program. You can even bring words into your computer without retyping by adding OCR software.

The Microtek Color/Gray scanner also comes with sophisticated color, gray-scale and black and white image editing software. Making it an even more outstanding value.

24 BIT COLOR 8 BIT 256 GRAY LEVELS

If you need a scanner for your IBM PC, PS/2, or Macintosh, you need Microtek's MSF-300Z Color/Gray scanner. Call (800) 654-4160 or in California (213) 321-2121 today to find your nearest Microtek dealer. After all, at this price, you can hardly afford not to.

The MSF-300Z Color/Gray scanner is just one member of a whole family of innovative scanners available from Microtek.

MacUser 1989 EDITORS' CHOICE AWARD WINNER

★★★★★ FIVE STAR AWARD Publish! 1990

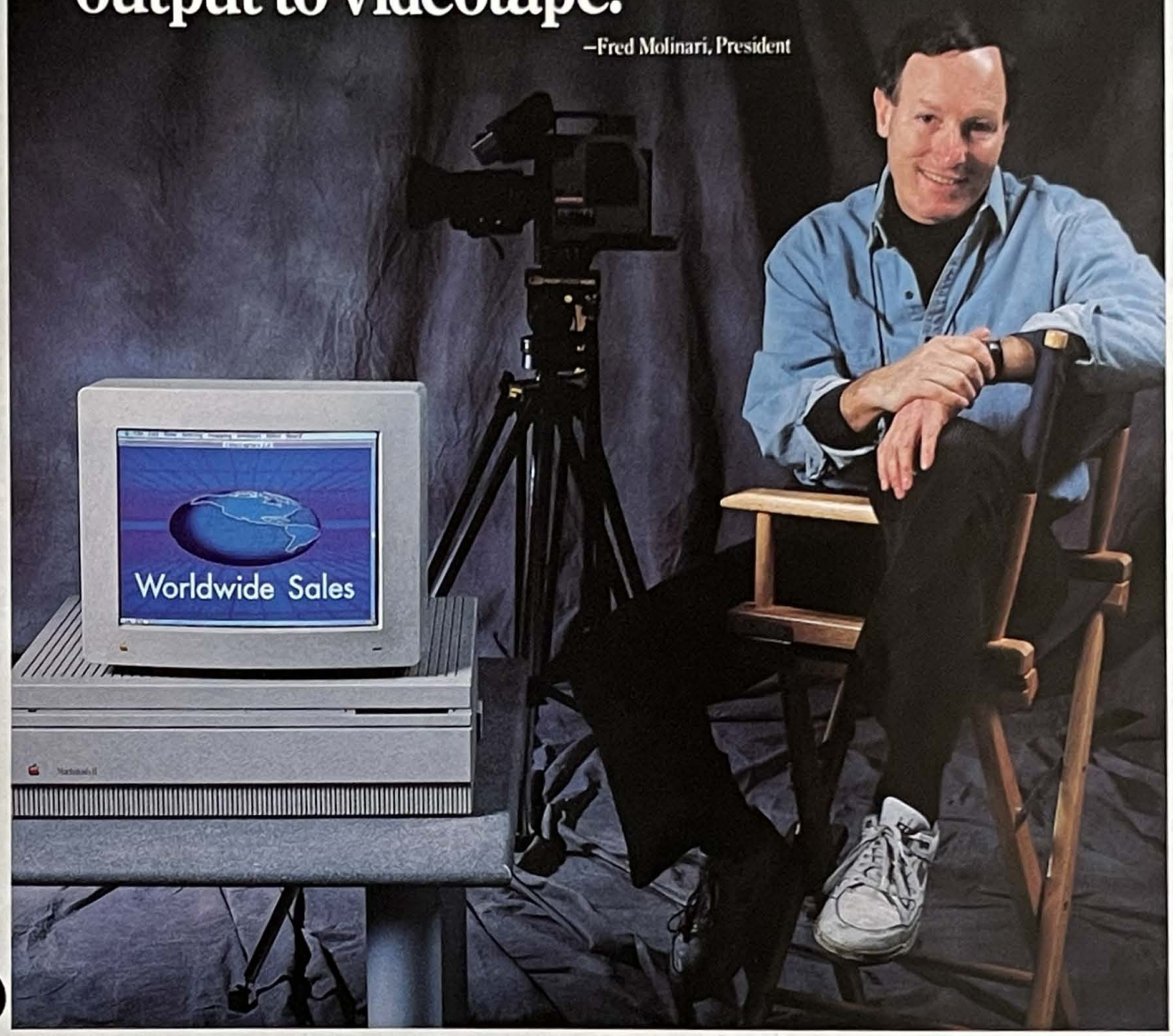
MICROTEK Better Images Through Innovation.

•Microtek Lab, Inc., 680 Knox Street, Torrance, CA 90502, (213) 321-2121 (800) 654-4160•Microtek International Inc., No. 6 Industry East Road 3, Science-Based Industrial Park, Hsinchu Taiwan 30077, R.O.C., 886-35-772155 •Microtek Electronics Europe, GmbH., Grafenberger Allee 277, Stapelmann-Haus, 4000 Düsseldorf 1, F.R. Germany, 49-211-6790051• © 1989 Microtek Lab, Inc. All rights reserved. Macintosh is a trademark of Apple Computer, Inc. IBM, XT, AT and PS/2 are trademarks of International Business Machines Corporation. All other trademarks or registered trademarks are the property of their respective holders.

D E S K T O P V I D E O

"ColorCapture lets you create exciting videographics on your Mac II, then output to videotape."

–Fred Molinari, President

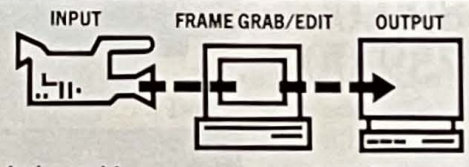


Introducing ColorCapture™ Videographics 2.0

Now, you can experience the full potential of your Mac® II as a videographics system.

ColorCapture Videographics 2.0 makes it all possible with its real-time video frame grabs, PhotoMac® editing software, and its ability to output to videotape. This new videographics package operates with 32-bit color QuickDraw,™ giving it high definition display in over 32,000 colors.

And if all that fails to dazzle you, imagine adding "live video windows" to your still images and graphics. And labeling, painting, or drawing over live images. You can even zoom, pan, or scroll at speeds that will take your breath away.



And for those finishing touches, PhotoMac*Edit*™ can be used to color correct, manipulate and retouch images for even further creative control.

So, why look further for your video capabilities when ColorCapture Videographics 2.0 can do it all?

Call today (508) 481-3700.

In Canada, call (800) 268-0427.

DATA TRANSLATION®

World Headquarters: Data Translation, Inc., 100 Locke Drive, Marlboro, MA 01752-1192 USA, (508) 481-3700 Tlx 951646. **United Kingdom Headquarters:** Data Translation Ltd., The Mulberry Business Park, Wokingham, Berkshire RG11 2QJ U.K. (0734) 793838 Tlx 94011914. **West Germany Headquarters:** Data Translation GmbH, Stuttgarter Strasse 66, 7120 Bietigheim. Bissingen, West Germany 07142-54025. **International Sales Offices:** Australia (2) 662-4255; Belgium (2) 466-8199; Canada (416) 625-1907; China (1) 868-721 x4017; Denmark (42) 274511; Finland (0) 372144; France (1) 69077802; Greece (1) 361-4300; Hong Kong (5) 448963; India (22) 23-1040; Israel (52) 545685; Italy (2) 82470.1; Japan (3) 502-5550, (3) 348-8301, (3) 555-1111; Korea (2) 756-9954; Netherlands (70) 99-6360; New Zealand (64) 9-545313; Norway (2) 53 12 50; Portugal (1) 545313; Singapore (65) 7797621; South Africa (12) 8037680/93; Spain (1) 455-8112; Sweden (8) 761-7820; Switzerland (1) 723-1410; Taiwan (2) 702-0405.

ColorCapture is a trademark of Data Translation, Inc. PhotoMac is a registered trademark and PhotoMac*Edit* is a trademark of Avalon Development Group. All other trademarks and registered trademarks are the property of their respective holders.

StackWEEK STEVE MICHEL

Overcoming the scripting Tower of Babel

ISSUES & TRENDS

Looking at the history of personal computers, it's clear that giving users the ability to customize applications through either programming or scripting has made a number of software packages successful.

Certainly, the popularity of Lotus 1-2-3, dBASE and WordPerfect in the MS-DOS world can be traced in part to their macro or scripting capabilities. The same holds true for a number of Mac applications, including ACIUS Inc.'s 4th Dimension, Microsoft Excel, Software Ventures Corp.'s MicroPhone and Informix Software Inc.'s Wingz. Virtually everyone agrees that powerful programs become more powerful and offer greater utility when users can customize programs and automate procedures.

So what's wrong with this picture? If you do a lot of scripting and need to work in more than one program, the problem becomes crystal clear: No two scripting languages are compatible with each other. In fact, they rarely even resemble one another. Moving from, say, HyperCard to Wingz to FoxBASE+/Mac can be, if not a nightmare, a significant nuisance.

Handling common tasks. It's ridiculous that common tasks are not handled in a common way by scripting languages. Here's an example chosen almost at random: figuring out the day of the week (Monday, Tuesday and so on) under program control. In HyperCard you could use a statement such as "item 1 of the long date" that returns "Thursday." In Wingz, the statement "dayname(now())" does the same. In Excel, it's "weekday(now())." MicroPhone II uses the "dayOfWeek" function and in FoxBASE you use "cdow(date())."

While none of these procedures is particularly arcane, the myriad approaches and syntaxes for arriving at the same end illustrate the problem. Moving from one program to another requires a significant amount of gear shifting, which in turn exacts a high price: Learning curves are lengthened for each new package, and routines that might be copied and pasted from one program to another have to be rethought and recoded. The upshot is a lot of wasted time.

What is to be done? HyperTalk would be an excellent model for a core scripting language for use by a variety of programs. True, many of its features — especially those directly relating to its stack/card metaphor — cannot be applied to such things as communications programs. But HyperTalk itself is extensible.

Just as Apple took the lead in developing the Macintosh user interface, Apple could be working harder at making HyperTalk or something like it a standard for scripting languages. At the SuperCard announcement in January 1989, Jean-Louis Gassée proposed the creation of a standards committee for the HyperTalk language. To all appearances, nothing has come of this proposal.

It's time to start up (or revive) this language committee. But don't limit its focus to HyperCard compatibles; instead, such a committee should agree on a core set of routines, along with a core method for structuring commands and, perhaps most useful, a method for extending the language.

Clear benefits. It's clear what compatibility among languages offers users: faster learning time and an easier transition when moving from application to application while developing complex projects.

Developers would benefit, too.

Such compatibility would, for example, establish greater acceptance among the installed base, require less effort in supporting and educating users, and add marketing muscle by saying, "If you know HyperTalk, you know our language."

And the benefits are equally clear for Apple. By defining a scripting language as part of its user interface, Apple would be extending the standards for other user interactions with the machine. □

If you have tips or other HyperCard-related information, write to StackWEEK, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105. Electronic mail: MCI: STACKWEEK; AppleLink: D1507; Connect: MICHELS.

Affordable Solutions

DPI will not be undersold. Call now, to get an additional discount on all drives shown in this ad.

DPI Optical

DPI's new read/write/erasable 600MB Optical drive provides you needed storage for desktop publishing, multimedia, graphics, sounds and backup requirements. Uses ISO standard media to protect your investment today and tomorrow.

Optical Disk Drive
(with 1 cartridge) ..... CALL Todd Skogen

DPI 44R

DPI has been shipping the 44MB Removable since its release by Syquest. We are now bringing it to you with a faster access time of 20ms. DPI's 44MB Removable also comes with a two-year warranty on both parts and labor.

Includes 3 Cartridges

44MB Removable
Cartridge Drive
(with 3 cartridges) $899.00
(with 1 cartridge) $739.00

DPI 1.4

DPI's new 1.44 megabyte Floppy disk drive supports Apple's new 1.4 megabyte standard floppy disk drive, IBM™ 1.4 and 720K floppies. SCSI interface makes it compatible to all Macs without the need for a rom upgrade.

3 1/2" Floppy Disk Drive..... $339.00

DPI 1.2/360

5 1/4" SCSI Floppy Drive allows Mac™ to read and write1.2MB or 360K DOS Floppy Diskettes.

5 1/4" MS/DOS Compatible $399.00

*All prices and specifications are subject to change without notice.

BMUG (Berkeley Macintosh User Group) Newsletters Choice Product section says... "It's fast, reliable and trouble-free; the best of all Syquest removable drives available". (Winter/Spring 89) DPI has been listed in this category for the last three bi-yearly issues.

We offer these four drives as well as our hard drive line 20MB to 600MB with IBM, Amiga, and Atari compatible software.

40 Corning Ave, Milpitas, CA 95035
(408) 945-1850 • FAX (408) 945-8148

800-825-1850
DPI

MEMORY YOU CAN WRITE HOME ABOUT

Buy Technology Works' 4 Meg Memory Upgrade Kit For Just $350; Get FullWrite Professional™ FREE*

Power Up For The '90s. Technology Works memory kits let you upgrade your Mac® from 1 to 4 megabytes for just $87.50 per megabyte. And now Ashton-Tate lets you experience the word processing power of FullWrite Professional 1.0*, FREE with every 4 megabyte purchase! (Just $39 with 2 megabyte purchase.) **More Memory Means More Performance.** Harness the full power of the new memory-intensive programs, and get your Mac ready for System 7.0. Work faster and smarter with the multi-tasking power of MultiFinder—the more memory you have, the more applications you can run at once. Each memory upgrade package comes complete with an installation kit, 30-day money-back guarantee, and full technical support.* **Put FullWrite To The Text.** Designed to take advantage of your new Mac memory, Ashton-Tate's FullWrite Professional word processor has been called the most powerful, intuitive word processing package on the market today. FullWrite features advanced layout, graphic and document updating capabilities, and a sophisticated, easy-to-use environment. Technology Works memory and FullWrite word processor; the deal of the '90s that's worth writing home about.

***Limited Offer!** One FREE copy of FullWrite Professional™ 1.0 with each 4 meg purchase, or $39 per copy with each 2 meg purchase. FullWrite 1.1 upgrade service FREE with returned registration card. Software is not for resale. Offer valid only for individual & corporate direct purchases—no dealers, resellers or distributors please. For technical support, call 1-800-622-2210. Offer valid through March 31, 1990—or while supplies last.

ASHTON-TATE®
&
TechnologyWORKS

Technology Works, 4030 Braker Lane West, Austin, Texas 78759
Ashton-Tate, 20101 Hamilton Ave., Torrance, CA 90509

CALL 1-800-688-7466

New Media STEVE ROSENTHAL

What CD-ROM lacks, videodiscs have now

For about the cost of a CD-ROM drive or even less, you can get a Mac-controllable videodisc player — yet the statistics show that few Mac owners have been willing to make the investment.

Maybe the discs are too ungainly, the players too large or the analog videodisc technology too dull compared with the digital video that we'll have someday in the future.

That's too bad, because videodisc technology works, it's here now, and it has an established publishing and distribution network.

Bootstrapping. Most industrial videodisc players are made with a serial port for computer control, so all you need to hook one to a Mac is the right cable. In addition, you need either a separate video monitor (the simple, cheaper solution) or a Mac video card that also accepts television-style video for use with your Mac RGB (red, green, blue) monitor.

One big advantage of using videodisc technology with a Macintosh is that each element can also work independently. Unlike Mac CD-ROM players, Mac-controlled videodisc players have full front-panel controls and work just fine in stand-alone mode. You can start using the player as a stand-alone device and then add cabling to the Mac as opportunities make it worthwhile.

The images on videodisc are encoded in the standard video format used by off-the-shelf video monitors and the video inputs of consumer television sets. You don't need any processing or special chips to make them accessible. It's basically plug-and-play, although you may have to scrounge an adapter or two as well as the cable. (The videodisc industry generally follows the professional video standard of BNC connectors, while consumer monitors use RCA-style connectors.)

As for the discs themselves, clever publishers have found they can make a disc that plays fine without a Mac but gains another dimension when operated under computer control. For example, The Voyager Co. of Los Angeles publishes a series of stacks called Laserguides that work with some of the company's own art discs and with science discs from Videodiscovery Inc. You can step through those discs without the Laserguides, but you get a lot more with the added programs.

Finding software. You might think that with so few Mac players out there, there wouldn't be much point in developing Mac videodiscs. It's the same dilemma as "Why develop CD-ROM discs if so few Mac owners have bought players?" and "Why buy a CD-ROM drive if there are so few discs?"

As with CD-ROMs, one answer for videodisc publishers has been to find applications where the added value is large enough to justify the cost of a player for a single application. You'll find, for example, a number of videodiscs made for use with high-end training systems such as Mentor/MacVideo from Edudisc Inc., Best Course of Action from Authorware Inc. and CourseBuilder from TeleRobotics International Inc.

Again paralleling the case with CD-ROMs, a group of videodiscs has been ported over from the larger MS-DOS market. The actual video doesn't need to be changed, so it's a matter of developing a Mac-compatible version of the software that works with the same videodisc.

For example, I looked at an interactive police story from Imedia International Inc. of Malibu, Calif., (also distributed by Voyager) that was developed in France for MS-DOS machines. The video signal has been converted from PAL (the European standard) to NTSC (National Television System Committee, the U.S. standard), an English audio track dubbed in alongside the French, and the MS-DOS program replaced by one for the Mac.

On the racks. A final advantage that videodiscs have over CD-ROMs is distribution. Other than mail order, CD-ROMs have been orphans in retail channels, finding little favor with either computer dealers or booksellers. But the video entertainment industry is used to stocking a range of fiction and nonfiction titles. According to Voyager, which publishes many non-computer discs as well as several for use with the Mac, you can already find many of the computer-oriented titles at bigger video stores in most major cities. □

Send tips and comments to Steve Rosenthal, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105; AppleLink: Steve.R; MCI: 114-8611.

The PC Magazine Editors' Choice November 14, 1989 Varityper VT600P — 1989 PC Technical Excellence Finalist — 1989 Electronic Publishing & Printing Product of the Year

The Award-Winning Varityper VT600 a Tegra Company is NEW & IMPROVED. The Only 11" x 17" Typeset Quality Printer with Adobe's PostScript® Interpreter. POSTSCRIPT®

Now with 4X the Output Per Month.

You Get High Quality One Inch / One Inch 600 x 600 DPI

on HAMMERMILL PAPERS Plain Paper with Ultra Fine Lines & Extraordinary BLACKS. Order Today & Receive a $1000⁰⁰ Discount* & Your First Set of Supplies Free.

RESELLERS: Reseller and Referral Agent inquiries welcome.

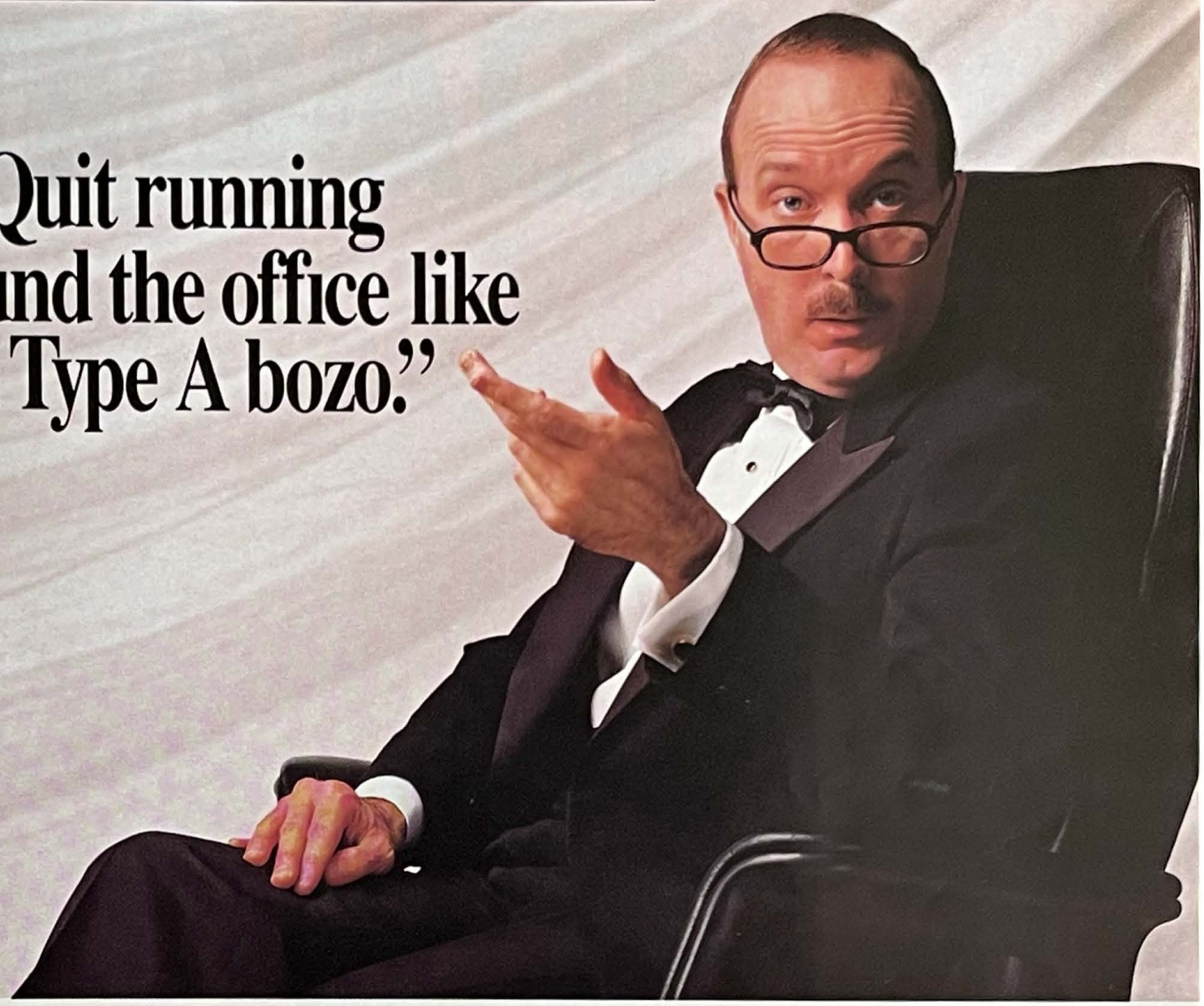
1-800-526-0192
(In New Jersey, call 201/935-8993)

Locker
Typesetting Equipment
One Maple Street, East Rutherford, New Jersey 07073

This ad was created entirely on a Mac with final output on the VT600. The VT600 is installed and serviced by Varityper, Inc.
*This is a limited-time offer. Varityper is a registered trademark of Varityper, Inc. PostScript is a registered trademark of Adobe Systems, Inc.

Dr. Productivity Says:

"Quit running around the office like a Type A bozo."



"Don't confuse activity with productivity. Get QuickMail.™"

"In the time it takes to run across the office (to someone who's not there anyway), you could have E-mailed your question, sent two more messages following up on different projects, answered several pressing questions that were E-mailed to you, then sent correspondence around the world. All without leaving your desk or your application. Ask anyone who's used it: QuickMail is the biggest boost to productivity since fear."

"Don't settle for hard-to-use mail. No one will use it."

"QuickMail is simple, yet rich. People enjoy using it, so they use it more. Good. Whether you're sending mail around your LAN or around the world, QuickMail makes it so fun and easy, people will cut down on time spent playing games, and get some real work done."

"Don't settle for feature-wimpy mail. You'll outgrow it."

"QuickMail gives you true store-and-forward technology, real-time conferencing, custom forms, a mail log, wide area connectivity, access to mail from laptops or terminal packages, easy-to-use, automated gateways to the public networks like MCI Mail™, UNIX®mail, AppleLink® and more. Others talk about gateways. We've been delivering for months. (Beware of companies with Edsels in their ads.) You won't outgrow QuickMail. Apple uses it. NASA uses it. Every major Macintosh® publication uses it. You can't go wrong."

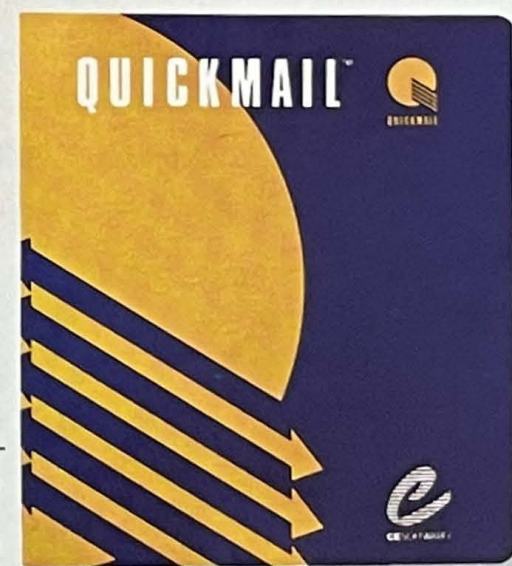
"Want a second opinion? Ask the critics."

"As we said before, CE Software's QuickMail is the best electronic mail package on the Mac, and the latest updates have only increased its lead over Microsoft Mail and InBox." MacWeek, 8/8/89

"Rather than exercising 20-20 hindsight, start out with QuickMail." Dave Kosiur, Connections, July-August/89

"Go to a dealer and try it."

Versions for the Macintosh and PC.
Suggested retail price: Version 2.2, 10 user pak: $499.95
Free literature and Where To Buy: 1-800-523-7638 Dept. CE12.



CESOFTWARE INC

CE Software, 1854 Fuller Road, P.O. Box 65580, West Des Moines, IA 50265 USA. Dr. Productivity and QuickMail are trademarks of CE Software, Inc. All other registered and unregistered trademarks are the sole property of their respective companies.

HOW TO AVOID THA

T SINKING FEELING.

IF the industry doesn't conform to a more consistent interface design, chances are a lot of programs may not stay afloat. This isn't Chicken Little running around shouting the sky is falling. This is based on exhaustive research distilled from over 6,000 questionnaires. We, at MacWEEK, asked multiple-application Mac users what drives them off the deep end. And the response was almost unanimous. Nine out of ten asked for a simpler, easier-to-use interface.

Deeply concerned about this changing tide, we called together a conference in San Francisco on September 19, 1989 to address the future of the Mac interface design. At ID89, hundreds of developers gathered in hopes of setting down some important guidelines and standards covering menubars, dialog boxes, command-key sequences and tool palettes.

And now this valuable information can be yours, even if you were unable to attend. The ID89 Conference Book includes not only complete documentation of MacWEEK's research, but also videotapes presented at ID89 by Apple Computer and Aaron Marcus, a leading interface design consultant; and complete audio cassettes of the conference proceedings.

So, before you plunge into your next software application, dive into the ID89 Conference Book. The program you save may be your own.

Order Today. Offer good only while supply lasts.
Send this coupon, with check or money order ($195.00 per set) to:
MacWEEK ID89, 301 Howard St., San Francisco, CA 94105.

NAME

TITLE

COMPANY

MAILING ADDRESS

CITY, STATE, ZIP

HOW TO BE CONSISTENT FROM INTERFACE TO INTERFACE.

ID89 MacWEEK

Letters

Macintosh advantage, yes, but at what cost?

As a chemical engineer, Mac user and Apple shareholder, I have been actively promoting the Mac advantage for more than four years. But from articles that I have read regarding Apple's Mac strategy, it seems the company is moving away from low-cost Macintoshes — an area that Apple should concentrate on.

I know many people who wanted to buy a Macintosh for home use but couldn't justify spending $2,000 for a minimum system when an MS-DOS-based system costs about $1,200. Of course, MS-DOS computers do not have the Mac's ease of use, but for many people, only price is important. If these people are then given a chance to buy computers at their office, they tend to choose MS-DOS, because it's compatible with their home computer.

I suggest that Apple allow other companies to manufacture the low-cost 68000-based Macs using 128K or Mac Plus ROMs sold to them by Apple. The company could work closely with these companies to ensure compatibility. To prevent unauthorized clones, Apple could put heavy penalties in its ROM license agreements.

The company could then concentrate on producing the best 680x0 and 88000 high-end workstations to compete with OS/2 and Unix workstations.

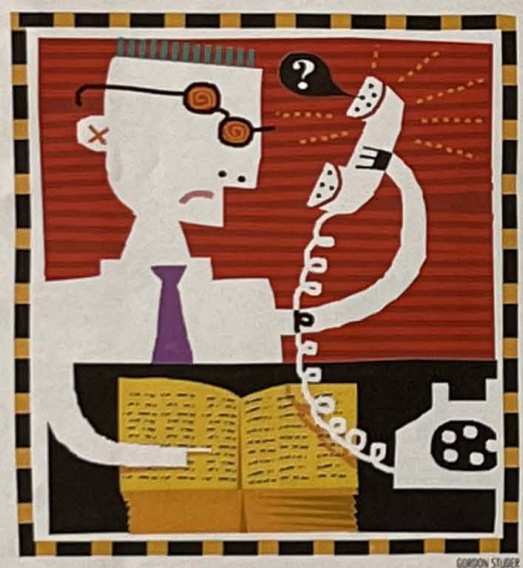
We all want Apple to succeed, but sometimes the inherent Macintosh advantage isn't enough to sway companies or individuals. Only price, support and longer warranties can.

Neal E. Cammy
UOP Inc.
Des Plaines, Ill.

Send letters to MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105. MCI: 323-1203; fax: (415) 243-3650. We reserve the right to edit letters for clarity and length.

Mac Soapbox TOM HENSLEY

A cry in the tech-support wilderness



GORDON STUBER

It all began with the statement in MacWEEK's Jan. 23 issue that Apple's INIT file, which reportedly fixes the serial port problems with the Mac Portable, was "posted on AppleLink and is available at no charge through standard Apple system software channels, including dealers and users groups."

I'm sure the users groups will eventually locate it. But my story follows a day of relentless and fruitless pursuit — calling all the Apple dealers in California's San Fernando Valley Yellow Pages.

My search began with Di-No Computers of Pasadena, the dealer of record for my Portable. The tech-support person told me "Someone here may have that," and put me on hold, finally returning to say the person with the program was off-site. He promised to call back. I'm still waiting.

I then began calling the numbers listed as official Apple dealers. I called NYNEX Business Centers of Encino, despite my suspicion that NYNEX sounded more like an acne remedy than a Portable fix. After a time on hold, the operator returned to announce: "Sorry, there's no one here for technical support." Period. Maybe it *is* an acne remedy.

With some reservation, I called ComputerLand in Glendale. After the initial period on hold, I explained my quest. "Wait a minute," the voice said and put me on hold again. When he returned, he said he wasn't aware of any Portable fix. I asked if they had AppleLink. "Well, Apple usually just sends us a disk," he replied.

The number listed for Heath-Zenith Computers turned out to be its corporate sales headquarters in downtown Los Angeles. Heath apparently hadn't heard of AppleLink and referred me to its Woodland Hills store.

"It's on AppleLink?" the person on the phone asked before putting me on hold. "Sorry, tech support isn't here, and there are no sales guys here either. I have no idea how to find what you're looking for." Neither did I.

The tech person at NeoComp of Chatsworth listened to my question. "I suppose I could get it, but I don't have it on a floppy." He didn't seem to be very excited about going after it, and I wasn't very excited about driving to Chatsworth.

My search became desperate. I began calling computer advertisers from the Saturday sports section of the Los Angeles Times. I tried Personal Support Computers, said to have the best prices of any authorized dealer in Los Angeles and known to be MIDI (musical instrument digital interface) savvy. I asked for tech support and was given a different phone number. But when I said I was calling about the INIT, I was given yet another number. I made the mistake of becoming confident. The person who answered had never heard of any Portable INIT.

I called Sun Computers, where tech support was off for the day but would be in the following day. I began to wonder: What is this secret organization of Mac tech support people that holds mysterious meetings? I certainly hope that it doesn't involve animal sacrifice or mutilation of motherboards.

Next I tried SOS Computers of Los Angeles. The tech support person didn't know about the INIT but promised to obtain it and call back. I tried the SOS store in Calabasas, where I spoke to the only person I encountered all day who knew about the Portable INIT. He (Randy) read about it in MacWEEK.

Unfortunately, SOS' use of AppleLink is restricted to the company president, and he was nowhere to be found. Randy promised to write it down and try to come up with the phantom INIT.

When things seemed darkest, I placed an all-points whine on CompuServe, and a kind soul (who asked for anonymity lest Apple persecute him) uploaded the 1-Kbyte file that had eluded the Apple distribution system so thoroughly. Telecommunications giveth and telecommunications hideth.

Looking back, I recognized that strange love/hate feeling that most Mac owners have toward Apple. After making its programmers work like hell to get a fix done so that its $6,000 machine worked properly, it flushed the solution into that formless, shapeless and essentially brainless void called the Apple dealer system, via a network that no one seems to use (except the president of one store), and waited for it to float out to sea. I was so mad that I called up Apple and demanded that Allan Loren resign immediately. Ha! Fat chance of *that* happening. □

Tom Hensley, a longtime MacWEEK reader, is a musician and computer guru.

Editorial

The end of an epoch

The *belle époque* has come to an end. Apple's reputation as the golden employer of Silicon Valley, if not the entire microcomputer industry, has been compromised. Four weeks into Apple's management turmoil, discord and low morale permeate Apple's ranks.

Clearly, the Apple that remains after this latest purge will be much different from the preceding one. And while "different" doesn't always mean "bad," the change will have long-lasting effects on the legendary culture of the company that designed the computer "for the rest of us." Who knows? The recent events could compel Apple to redefine its goals and philosophy in a way that will accommodate the bean counters who manage evolution and the innovators who want to change the world.

Tarnished image. The continued public disclosures of employees' electronic-mail messages critical of Apple management has tarnished Apple's image as one of the best-run companies in America. Perhaps more telling, it has exposed a culture clash that pits corporate executives against the rank and file.

The messages slammed management for offering extravagant signing bonuses and golden parachutes (payoffs) for executives who leave the company. In addition, Apple's profit-sharing plan, its handling of layoffs and executive perks, such as company cars, have come under fire.

Apple CEO John Sculley has proffered explanations for the signing bonuses, cars and golden parachutes. In an industry where good executives are a valued commodity, you pay. A good chief financial officer is worth a $1.5 million signing bonus if he is vital to expanding Apple's $5 billion-a-year business.

Sculley also has justified the need for layoffs: In this period of slower growth, fixed expenses need to be brought in line with profits.

While the explanations may make sense in the world of high finance, it's become clear that many on Apple's staff do not fully buy into Sculley's rationale or the way in which management has handled these changes.

Apple loyalists, who believe that working at the company provides an opportunity to change the world, feel betrayed. They say the philosophical underpinnings that made Apple what it is — formed by hippies and hackers dedicated to improving the world around us — are being eroded by bean counters and yuppies on the make.

Messages of anger. Many of the employee messages make this point most clearly. As one employee put it, "We do not want to please Wall Street, or even stockholders, on a quarterly basis; we want to change the world over the course of our lifetimes. Ten billion dollars is a meaningless goal if Apple's meaning is lost in its pursuit."

Another letter stated: "We are creating a two-class society within Apple Computer. We are raping our shareholders. And perhaps more seriously, we are sending the wrong messages to our people."

One person even recommended that management take a 10 percent cut in pay before any employees are laid off.

But these statements from hurt and angry employees need to be seen for what they are — chapters in the story of a company suffering growing pains and struggling to regain its soul.

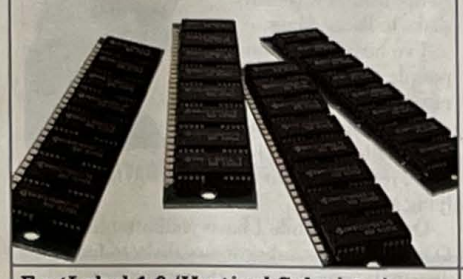
Sculley and the management team at Apple will have to exercise some Silicon Valley diplomacy. If they don't, they risk losing key assets that have made Apple what it is and set it apart from the competition. □

MacCORPORATE

THE CORPORATE SOLUTION

1 MEG SIMMS

New Low Price! Low Profile, 120 nanoseconds, high-quality dependable 1 meg Single In-line Memory Modules. Each comes with a 2-year manufacturer warranty. **$89.**



StrataVISION 3d (Strata)

Create scenes with props, depth, shadows, textures and reflections. Adjust three different types of lighting (directional, spotlight, and point source), move camera, and rotate objects to set up the perfect rendering of your concept. Mapping allows any 2D image to be wrapped around an object. Import, manipulate and render data from other 3D formats (Super 3D, MiniCAD+, DXF, IGES), and 2D formats (PICT, EPS). StrataVISION 3d takes full advantage of the 32 bit Color QuickDraw. **$375.**

Dust Covers (Basic Needs)

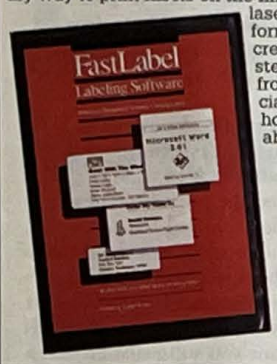
Basic Needs dust covers look great! Machine stitched and custom fitted. The covers are made from washable rip-stop nylon and won't crack, yellow, or fade like similarly priced vinyl. Full line available starting at **$11.**

CanOpener (Abbott)

Information retrieval utility for the Mac. CanOpener will search anywhere, and lets you retrieve just about anything; including text, pictures and sounds. Locates text inside pictures, and gives you the whole picture! Anything you retrieve with CanOpener can be stored in its library, so the next time you need it, it's just a click away. **$65.**

FastLabel 1.0 (Vertical Solutions)

End label hassels with FastLabel - the revolutionary way to print labels on the Imagewriter and laserwriter. Preformatting instantly creates labels. One step text loading from any commercial database. Save hours of your valuable time! **$49.**



The "ULTIMATE" SE Carrying Case (I/O Design, Inc.)

The "ULTIMATE" SE Carrying Case is designed with the same high quality standards as the other MacLuggage products. This case offers internal, padded compartments for ANY Macintosh keyboard, mouse, external hard disk and cables. It also features 2 additional exterior pockets for everything from disks to umbrellas. Combine these features with sturdy Dupont Cordura nylon and 1/2 inch high density foam padding and you'll see why this is the "Ultimate" carrying case for your Mac. **$79.**

ResumExpert (A Lasting Impression)

These fully formatted Resume templates for Microsoft Word 3.0 or 4.0 features eye-catching layouts that will highly impress perspective employers. Just select one of the 40+ templates and replace the text with your own information. 4 mice rating. **$39.** Cover Letters. **$39.**

Professional resume templates available for **$39. ea.**

NEW! Price Breakthrough! **The Cutting Edge *Under the Mac Hard Disk Drives*** are quiet and reliable with access times down to 20 ms. 20 meg to 80+ meg available. **20 meg only $359. 30 meg only $479. The 800K Floppy Drive's** attractive styling, quiet performance, and high-tech reliability make it our most popular floppy drive. **$149.**

TOP BUSINESS PRODUCTS

ACCESSORIES

Avery	
Labels (full line available)	Call.
B.A.S.F. made in U.S.A.	
DS/High Density (1.44 meg)	24.
Basic Needs	
Dust Covers - Grey Nylon Ripstop	
ImageWriter or LaserWriter	12.
Mac Plus and Keyboard	11.
Mac SE and Extd. or Reg. Keyboard	11.
Mac II and Extd. Keyboard	12.
I/O Designs	
Macinware MacIIcx Case	85.
Macinware MacII Carrrying Case	99.
Macinware SE Ext. Case	75.
The Ultimate SE Carrying Case	79.
Kensington	
Mac II Stand w/Cable Kit	64.
MasterPiece Mac II	105.
PowerBacker 360 UPS Line	269.
Polaroid	
Circular Polarizing Filter	35.
Targus Ltd.	
Deluxe Plus/SE-X Kbd Case	69.

BUSINESS

Abacus Concepts	
SuperANOVA	465.
Abbott Systems	
CanOpener	65.
Acius	
4th Dimension 2.0	515.
AEC Management Systems	
AEC Information Manager	409.
FastTrack Schedule	115.
A Lasting Impression	
ResumExpert (word vers.)	39.
Cover Letters or Students	ea. 39.
Managers or Sales & Marketing	ea. 39.
Healthcare or Finance & Banking	ea. 39.
Education or Glamour Profs.	ea. 39.
Comp. Sciences & Engineering	ea. 39.
Aldus	
Persuasion	339.
Caere	
OmniPage	549.
Claris	
FileMaker II	225.
MacProject II	369.
SmartForm Designer	295.
Connectix	
Virtual	188.
Dantz Development	
Retrospect	152.
Delta Point	
DeltaGraph	99.
Fifth Generation	
Suitcase II	44.
Fox Software	
FoxBase+/Mac 2.0	295.
HJC/Microcom	
Virex 2.1	55.
Informix	
Wingz	259.
Intuit	
Quicken 1.5	36.
Kent Marsh	
MacSafe	107.
NightWatch	87.
Knowledge Revolution	
Interactive Physics	169.
Layered	
atOnce!	289.
Lexpertise	
MacProof	115.
Meca	
Managing Your Money	124.
Microsoft	
Excel 2.2 or PowerPoint 2.01	249.
The Microsoft Office	599.
Word 4.0	249.
Preferred Publishers	
DAtabase 1.5	69.
Direct Mail 1.5	54.
Prescience	
Theorist	285.
Software Innovations	
HandOff	32.
Softview	
MacInTax Federal 89	65.
Solutions	
SuperGlue II	61.
Symantec	
More II	279.
S.A.M. (Anti-Virus)	69.
Symmetry	
Acta Advantage	65.
KeyPlan	249.
TGS Systems	
Prograph	149.
Vertical Solutions	
FastLabel 1.0	49.
Wolfram Research	
Mathematica (SE)	450.

COMMUNICATIONS/ NETWORKING

CE SOFTWARE	
QuickMail 2.0 (1-10 user)	249.
CompuServe	
CompuServe Subscription Kit	24.
DataViz	
MacLink Plus 4.1 w/Cable	125.
Farallon	
Timbuktu Remote	195.
PhoneNet Star Controller	839.
Software Ventures	
Microphone II v.3	219.
TOPS	
TOPS DOS	123.
TOPS MAC	189.

DISK DRIVES

CMS	
MacStack 20 Meg	459.
MacStack 30 Meg	499.
MacStack 45 Meg	599.
MacStack 60 Meg	649.
MacStack 80 Meg	769.
Cutting Edge	
800K ext Floppy Drive	149.
Under the Mac 20 Meg	359.
Under the Mac 30 + Meg	479.
Under the Mac 40 + Meg	525.
Under the Mac 60 + Meg	609.
Under the Mac 80 + Meg	699.
Dolphin Systems Tech	
Integra 20 Meg	429.
Integra 30 Meg	479.
Integra 40 Meg	549.
Integra 60 Meg	615.
Integra 80 Meg	695.
Flipper 44 Meg	829.
Kennect Technology	
Drive 2.4	339.
Rapport	209.
PeripheralLand Inc.	
Infinity Turbo 40 Meg	1098.
Turbo Floppy 1.4 Meg	359.

CORPORATE SOFTWARE GUIDE

FREE OFFER

A copy of the MacCORPORATE Guide to software, hardware and peripherals is yours FREE when you call our toll-free number. Its THE corporate resource for Macintosh solutions and includes reviews of over five hundred Mac products.

GRAPHICS & DESIGN

Adobe Systems, Inc.	
Adobe Type Manager	56.
Illustrator 88	279.
StreamLine	229.
Aldus	
PageMaker 3.02	385.
Custom Applications	
Freedom of Press	265.
Deneba	
Canvas	169.
Emerald City Software	
Type Align	63.
Smart Art I, II or III	ea 85.
Graphsoft	
MiniCad Plus	519.
MacroMind	
MacroMind Director	445.
Olduvai	
Read-It! O.C.R	249.
Paracomp	
Swivel 3D	299.
Quark	
Xpress 2.12	449.
Silicon Beach	
SuperCard orSuperPaint 2.0	ea. 125.
Strata	
StrataVISION 3d	375.
SuperMac	
PixelPaint Professional	395.
Timeworks	
Publish-It!	225.

HARDWARE

Abaton	
Interfax 12/48	265.
Interfax 24/96	425.
Cutting Edge	
19" 2 Page Monochrome Monitor	959.
DataDesk Int.	
Mac-101 Keyboards	139.
General Computing Company.	
WriteMove Ink Jet Printer	575.
Hayes.	
SmartModem 9600 (V series)	759.
Kensington	
Turbo Mouse	109.
Magnavox	
14" Color Monitor	535.
Microtek	
Microtek MSF-300Z Scanner	1629.
Qume	
Crystal Print Publisher	2900.
ThunderWare	
LightningScan	369.
ThunderScan	187.

MEMORY UPGRADES/ ACCELERATORS

1 Meg Simms 120ns	89.
Dove (full line available)	
FastNet III, SE or SE/30	375.
MaraThon 030 or 030X	969.
MacSnap 2s cmos	209.
MacSnap 4s cmos	409.

MacCORPORATE

A division of MacWAREHOUSE

1-800-622-6222

Mon-Fri 8:00a.m. – 8:00 p.m. (Eastern)

FAX 1-203-855-1386

(If you wish to place an order with our consumer division the number is 1-800-255-6227)

MacWarehouse™ 47 Water St., S. Norwalk, CT 06854

SERVICE AND SUPPORT

Call us now. For personalized service, we'll give you your own Account Manager, backed by a team of dedicated Mac professionals and technical staff. Your team works closely with manufacturers and programmers so you always get the very latest information on new products and new versions.

We offer evaluation copies and demonstration disks for many of our products. A limited number is available on loan to our Corporate Accounts for a thirty-day trial.

Check out our prices, our fast, efficient OVERNIGHT DELIVERY of your order, on-line customer service, free support from your own dedicated Account Manager. You won't find a better source for your Mac needs.

Call now for your FREE copy of the MacCorporate Guide.

Jennifer

I'm Jennifer,
Customer Service Manager

MacWAREHOUSE™

- Corporate orders accepted upon credit approval.
- VISA & MASTERCARD accepted; no surcharge.
- Your card will not be charged until your order is shipped.
- Shipping: $3 per order. (Includes overnight delivery within continental US for orders placed by 8:00 p.m. (EST) - except as stated otherwise.)
- Sales Tax: CT residents add 8%; NJ residents-6%. OH residents-applicable tax.
- C.O.D. (max. $1000) add $6 inc. shipping - cash, money order or cashiers check. (C.O.D. ships UPS)
- Products covered by 120-day limited warranty. Defective software replaced; hardware replaced or repaired at our discretion.
- Policies, item availability and price subject to change without notice.

WKBØ4

MacCORPORATE and MacWAREHOUSE are trademarks of MicroWAREHOUSE Inc.

MacCORPORATE 1-800-622-6222

The Corporate Solution.

Only $3 per order

Help Desk

Reformatting high-density floppy disks

I have a Mac IIcx, and a co-worker has a Mac II. He gave me some files on a 1.4-Mbyte disk that had been formatted to 800 Kbytes. After copying the files, I was unable to reformat the disk to 1.4 Mbytes. I've seen this happen before. In fact, I can't seem to successfully reformat any high-density disk that's been formatted to 800 Kbytes.

Quite a few people have been bitten by this problem. High-density 1.4-Mbyte disks are recorded with a weaker signal than lower-density formats. This signal can't completely erase the stronger signals used when the disk was formatted to 800 Kbytes or 400 Kbytes. Generally, formatting a high-density disk to 800 Kbytes ruins it for high-density use.

The SuperDrive enforces this. It looks for the extra hole in high-density disks and won't let you format them to anything other than 1.4 Mbytes, nor will it let you format lower-density disks to 1.4 Mbytes. However, older Macs can format high-density disks to lower densities. The solution is to not use high-density disks in these Macs.

BY DAVID RAMSEY

I've heard that some people have successfully erased malformatted disks with a bulk tape eraser. It couldn't hurt to try, I suppose, if you have one lying around.

One caveat while I have your attention: Don't try to convert ordinary disks to high density by punching another notch in the case; the media in high-density disks is different. The SuperDrive is already noticeably less reliable in the field than 800-Kbyte drives; I don't think it makes much sense to try and save a few bucks by pushing it even further.

Have you ever asked yourself. What about those Apple lawyers? Are they all brain-damaged marmosets or what?

I've just received the premier issue of develop, the Apple Technical Journal. Folks, if you haven't seen develop, you should. Few things illustrate the Apple spirit as well as this. It's a slick, professional-looking quarterly magazine that's sent free to all registered developers. (Anyone can subscribe for $30 a year.)

The inaugural issue is chock-full of information for Mac programmers. Articles deal with color, the Palette Manager, how to create and manipulate off-screen gWorlds, and other techie stuff, all written by the engineers who created it.

But a surprise awaits in the center of the magazine. Bound into every copy is a CD-ROM containing the full text of the magazine, a nice search and retrieval program, and complete source code to all the examples in the articles! On Page 2, Editor Louella Pizzuti says:

"We want you to understand and use the code freely, so we've included a CD that contains the entire journal as well as applications built from the code in the articles. This should make it easier for you to find what you're looking for, and for you to copy the code you'd like to use."

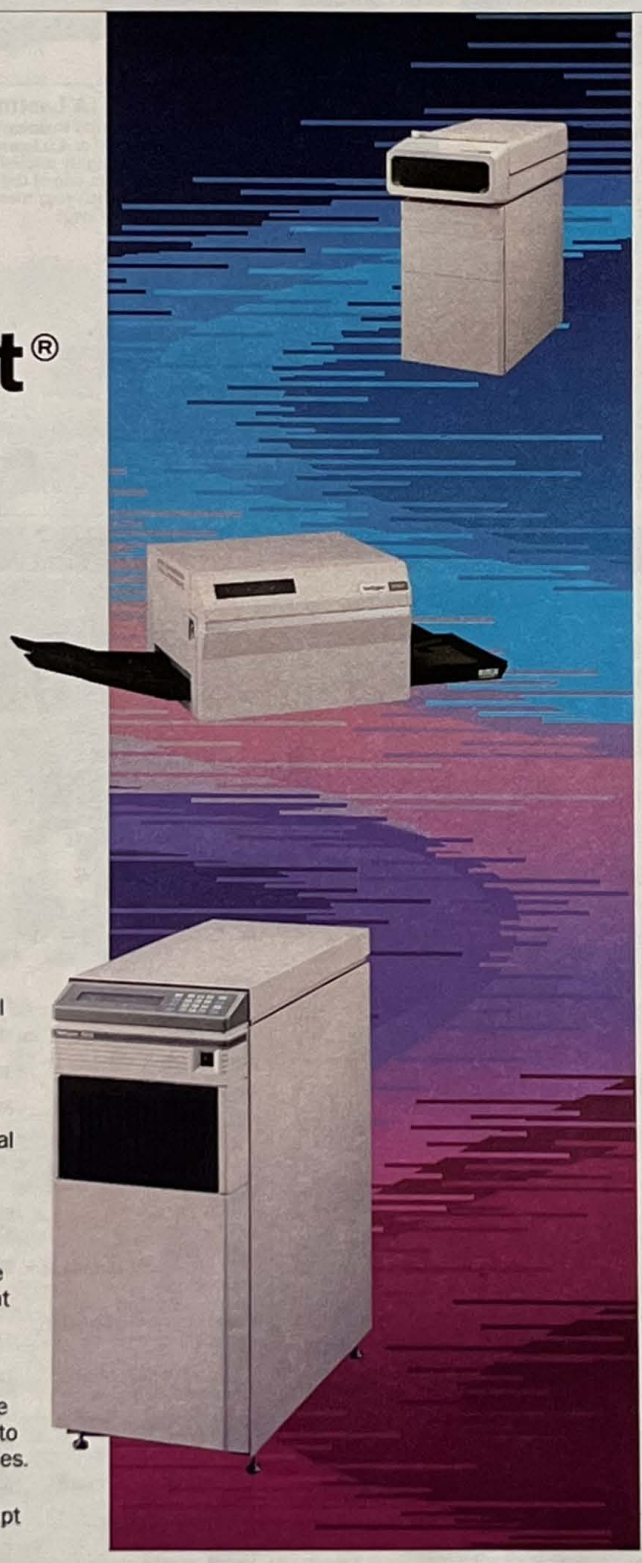
Sounds great, right? Real code by real Apple engineers you can just copy and drop into your programs. Unfortunately, following the CD-ROM in the magazine is an entire page of very tiny print, the Apple CD-ROM Software End-User License. Can you guess what's coming?

Stumbling across this little goodie is kind of like opening the door to your new Ferrari and finding that someone has thrown up in the driver's seat. Disgusting metaphors aside, check out Item 2, the restrictions: "You may not modify, network, rent, lease, sell, distribute or create derivative works based upon the Software and Materials in whole or in part. You may not electronically transfer the Software and Materials from one computer to another over a network."

As I read this, you can't even print the examples. In one stroke, Apple's ever-vigilant legal eagles have completely obviated the main purpose of the magazine. The whole thing is just so stupid. Frankly, I think one of the best things Apple could do right now is to line up its entire legal department, shoot them and replace them with engineers. □

Please send questions to David Ramsey on CompuServe: 76702,335 or to Help Desk, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105.

New PostScript® System Cuts Costs



Color Separation Quality and Speeds to 26 Inches Per Minute

Varityper's new modular Series 4000 combines high quality photo output, high resolution plain paper proofing, and our time-saving Instant Replay feature, all in a single Adobe® PostScript imagesetting system.

Plain paper proofing reduces photo material and processing costs. Because *our* plain paper proofs are high resolution—and consequently, more faithful to final output—your photomedia "final" takes are more likely to be *the* final take.

Varityper's Instant Replay feature lets you re-image without re-RIPing! Jobs requiring multiple repro's, those which the processor "ate," or those requiring imaging at another density can be re-run at full recorder speed.

The modular Series 4000 protects your investment because you select only what you need. You can change your system as your needs change, and you don't have to replace the entire system whenever technology advances.

To learn more about Varityper's award winning PostScript Imagesetters, call:

1-800-631-8134

(In New Jersey, call 201/887-8000, Ext. 999)

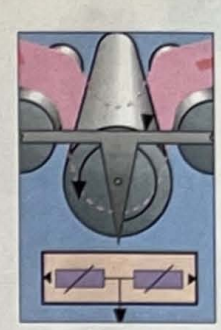
Varityper
a Tegra Company
11 Mt. Pleasant Ave., East Hanover, NJ 07936

Varityper is a registered trademark of Varityper, Inc.
Adobe and PostScript are registered trademarks of Adobe Systems, Inc.

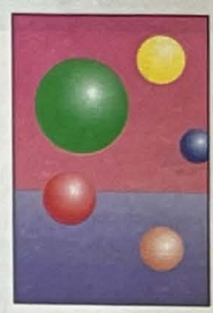
GA

MacWEEK'S GRAPHIC ARTS REPORT

27 February 1990



Imagesetter technology on the move.
See Page 38.



Take your color work to the right service bureau.
See Page 38.

Array's AS-1 promises low-cost high-res scanning

By Amy Bermar

Oakland, Calif. — After scanning the market, Array Technologies Inc. hopes to carve out a comfortable niche for itself in the scanner technology field by providing graphic arts professionals with a production-quality scanner for less than $30,000.

While slide scanner technology has evolved considerably in the past few years, with many devices now priced at about $10,000, the problem of low resolution remains. Consequently, such scanners are used mostly for preliminary work. For production-quality images, most graphic arts professionals still rely on drum scanners, which cost upward of $100,000.

The Array Scan-One, or AS-1, however, delivers unprecedented quality for a desktop scanner, according to industry observers. The $28,500 device, which includes a dedicated 80386 processor, 8 Mbytes of RAM and an 80-Mbyte hard disk, can scan prints and 3-D objects in addition to slides.

"The smaller pre-press shops can't afford a drum scanner," said Bo Varga, vice president of marketing for Array, based here. "But they need high quality, so they end up farming out work. Our scanner lets them do it in-house."

Varga maintains that Array's capabilities can carve a comfortable niche between the current selection of desktop scanners and the high-end drum scanners.

"We're not going head to head with the drum scanner manufacturers," he said. "We're trying to squeeze in the middle."

Analysts note that the AS-1's significantly improved resolution and color fidelity eliminate many of the weaknesses associated with scanner technology.

"Array came up with some attributes of a slide scanner and some attributes of an electronic still camera," said Mills Davis, whose Washington D.C.-based research consulting firm, Davis Inc., tests a variety of imaging devices. "The output has an image array of 2,000 pixels and a dynamic range of 10 to 12 bits. It gives you all the information you need to do professional-quality production."

Unlike other slide scanners, such as the Nikon LS-3500 and Barneyscan, which use an array of sensors known as a linear charged coupled device (CCD) array, the AS-1 uses photodiode technology to rapidly scan an image up to 32 separate times. A constantly oscillating light sensor captures four images at a time and integrates them, explained Mills. A second series of scans captures four more images, which are then integrated into the original scan. The result produces a resolution of 4,096 pixels by 4,096 scan lines. Because it has a dynamic range of 12 bits, the scanner captures a wider array of tones, particularly in shadow areas.

A Mac SCSI interface, which was expected to arrive in January, is now scheduled for this spring.

Few desktop scanners attempt to compete with the high resolutions provided by drum scanners. The drum scanner's single sensor is much more precise than the CCD array, which equalizes all the individual elements.

Drum scanners pass over an image just once. Some slide scanners do this too, but most repeat the process three times for red, green and blue filters, which may lengthen the process. The Array scanner captures all three shades simultaneously but provides additional detail by capturing the image in a rapid series of scans.

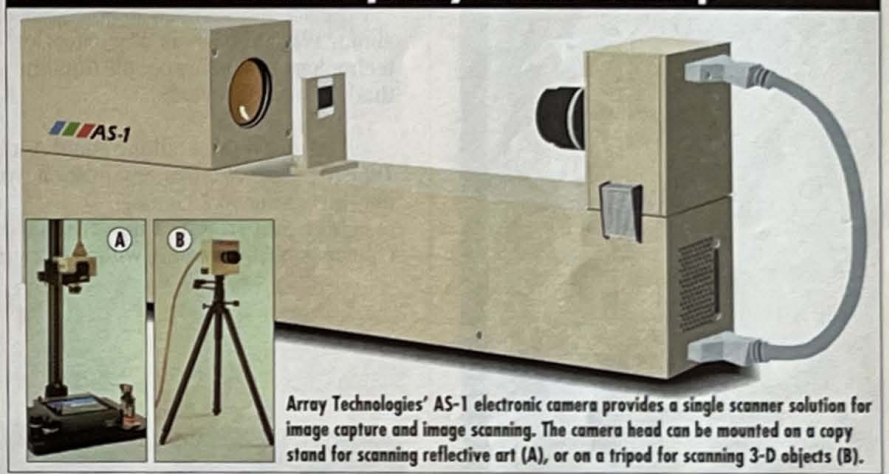
While drum scanners can scan a slide-size image, they are uniquely well-suited to larger images — an area in which the AS-1 falls short.

"If an image has to be spread out over a poster-size piece of work, an Array slide scan won't give you the detail," Mills said.

But according to Varga, the next-generation AS-1 scanner will be able to do an 8-by-10-inch piece of film at drum scanner quality. The company has already addressed the issue of speed for the scanner. Just six months ago, for example, it took a full hour to digitize a 2,000-pixel-by-2,000-scan-line image, Varga said. "Now we do it in about eight minutes, and we're looking to get it down to four."

Array Technologies Inc. can be reached at (415) 633-3000. □

AS-1: Drum scanner quality on the desktop



Array Technologies' AS-1 electronic camera provides a single scanner solution for image capture and image scanning. The camera head can be mounted on a copy stand for scanning reflective art (A), or on a tripod for scanning 3-D objects (B).

HENRI FROISSART

Type manipulation made easy

By Steve Hannaford

San Francisco — While a limited capability to manipulate type has long been available on the Mac with programs such as Cricket Draw and Aldus FreeHand, the recent arrival of four type manipulation packages has provided an added twist — ease of use. For professional graphic artists and type neophytes alike who want to kern, stretch, twist and rotate type, Letraset's LetraStudio, Emerald City Software's TypeAlign desk accessory, Broderbund Software Inc.'s TypeStyler and Design Science Inc.'s ParaFont are low-price, straightforward options.

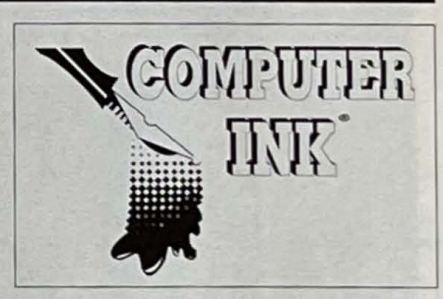
Distorting type often has been an effective design trick for creating logos or for adding interest to an otherwise dead page, but conventional type distortion has been a notoriously difficult task for graphic designers.

"I used to hesitate to suggest it because it takes time, and clients didn't want to pay for it," said Nancy Carow, a graphic designer with Abbington Associates of Kingston, Tenn. "The whole process was very tedious — letters, scissors, ink, Wite-out." But now Carow uses LetraStudio, the first of these packages to hit the market. She said the $495 application, which was recently upgraded to include all PostScript fonts, allows her to create "a striking visual almost as fast as setting horizontal rows of type."

In advertising, interesting typography is a must, and graphic designers are finding these programs invaluable in adding visual appeal. "We use TypeStyler to spice up routine ads or newsletters," said Joseph Di Sabato, a designer with Rivendell Marketing Co. of Plainfield, N.J. "We used to get similar effects by using far-out typefaces, but with TypeStyler I can use plain-old Times or Helvetica and catch people's eye." The $199.95 program lets users manipulate text for output on PostScript or QuickDraw printers, as do the two other applications.

Type effects are also in demand for film and video titling. Much of titling design is fairly straightforward horizontal work in part because of the expense and difficulty of doing anything else, according to Abby Levine, vice president of Rebo Research in New York. Rebo is working on ways to create both video and film animation using high-definition television. While Rebo has a $90,000 prototype of the Chryon character generator, a titling system for HDTV, Levine claims that it has only a fraction of the features he can get on the Mac, especially with LetraStudio. "You have flexibility that was never available before to create interesting titles," Levine said.

See Type, next page



Michael Gravois of Computer Ink, a subsidiary of Rivendell, created the company logo and graphic in TypeStyler.

Dale Horstman of Clement Mok Design created this New Year's greeting in about half an hour using the TypeAlign DA.

Type

From previous page

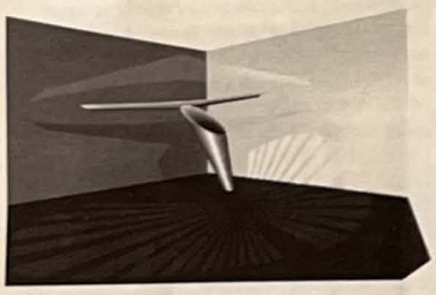
Dale Horstman of Clement Mok Design of San Francisco uses TypeAlign mostly for ad design. He likes its convenience and ease of use. "The simplest things are the most valuable. It's not so important to me to grab type, colorize it, add three drop shadows and twist it into odd shapes. Setting type in a simple curve is far more important." Horstman said he particularly likes creating effects without having to switch to another program. He finds that, along with the clear images he gets from TypeAlign's Adobe Type Manager support, the DA allows the user to actually work in different applications, which cuts down on the number of revisions needed.

The DA, which complements the Menlo Park, Calif.-based company's Smart Art packages, requires ATM, allowing for very accurate screen rendering of distortions to Type 1 fonts.

Today's type distortion programs put a significant tool in the hands of Mac-based designers. For professional graphic designers, effects that might have taken hours to create or required outside services can be assembled easily. For the less experienced, these programs can be used to sketch out effects that would be impossible to visualize otherwise. Even if used sparingly, all the users agreed, these programs can solve problems that would be daunting or impossible otherwise. As Di Sabato put it, "For the price, I can't imagine any graphic designer who wouldn't want to have this kind of tool."

Broderbund Software Inc. can be reached at (800) 521-6263, Design Science Inc. at (213) 433-0685, Emerald City Software at (415) 324-8080 and Letraset at (201) 845-6100. □

Nancy Carow of Abbington Associates designed this logo in minutes using LetraStudio. The original on which it is based took three hours to create with traditional methods.



Sculpting with the Mac

New York — Eli Kuslansky uses his Macintosh to craft sculptures like this one, which explores patterns of reflection and shadow when a plane of mirrored steel is intersected by a beam of light.

The New York City artist created this piece in AutoCad Release 10 on his Mac II (with 8 Mbytes of RAM and Apple's 15-inch color monitor). He then imported that image into Adobe Illustrator as well as StrataVision 3d for modeling. Image manipulation was performed in Letraset's ImageStudio.

"With the Mac, I have the ability to design, manipulate and fully visualize a 3-D sculpture prior to construction," Kuslansky said. He added that the computer not only facilitates conceptualization but also can be used for client presentations and to document his work.

For Kuslansky, the use of the Mac as a design tool has profound implications for the art-making process: "We have gained a new medium that parallels the introduction of photography in the 19th century," he said. — *By Kris Pettersen*

It's become one of desktop publishing's most elusive acronyms.

WYSIWYG.

In fact, there's been so much talk about "What You See Is What You Get" technology that many people thought that's all it would ever be.

Talk.

But now they're talking about Adobe Type Manager.™ And once you see it, you may be talking about it too.

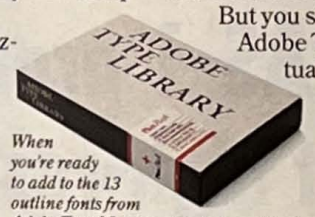
More importantly, there's a good chance you'll be creating with it. Because now you finally have a tool that makes your jagged Macintosh® display text sharp and easy-to-read.

So whether you're italicizing type, resizing a block of text, or zooming-in for some precise editing and kerning, Adobe Type Manager keeps your words looking great every time.

Speaking of time, it doesn't take much to install Adobe Type Manager. Just drag it into your system folder and you'll never have to think about it again.

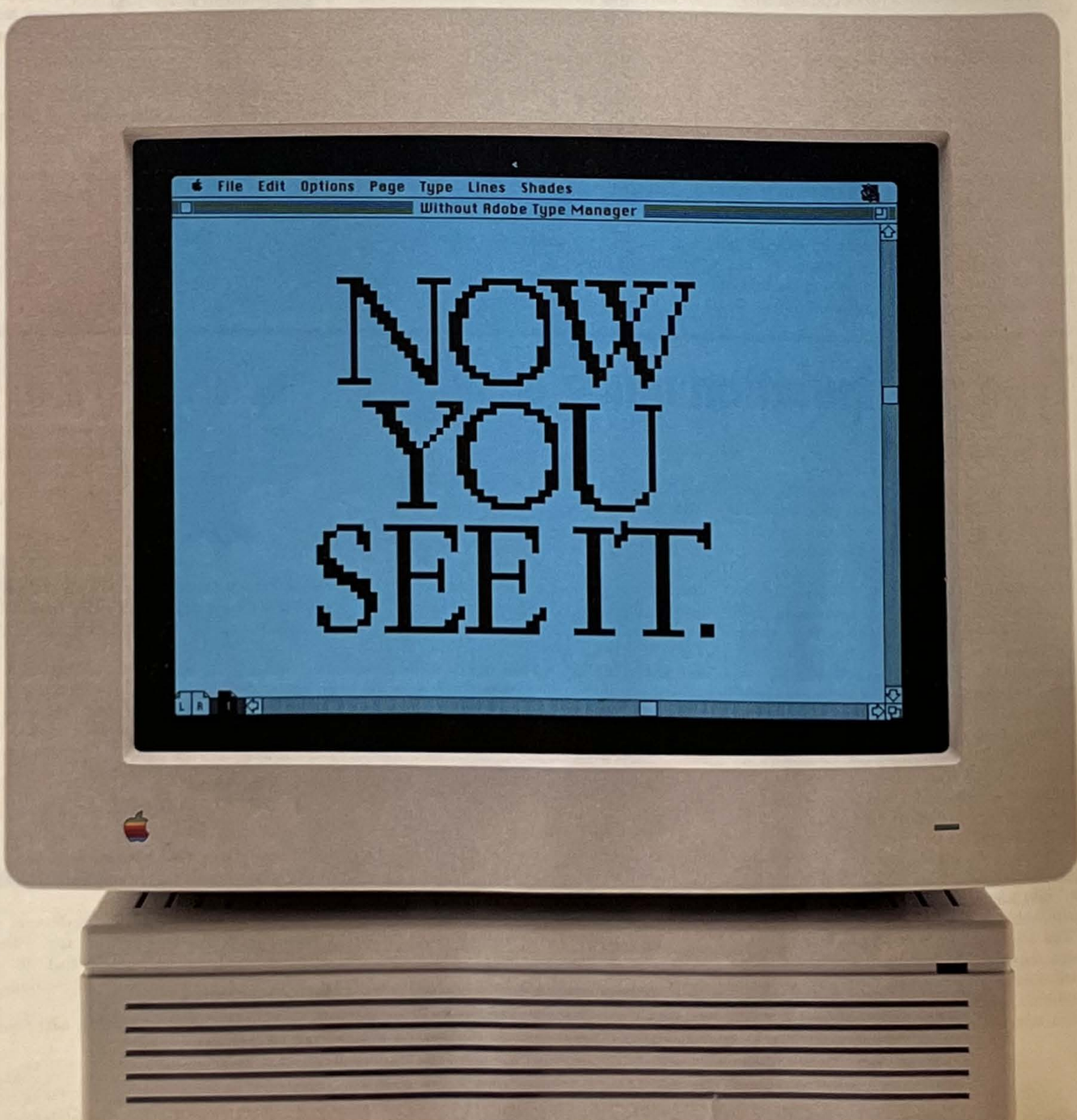
But you should think about this.

Adobe Type Manager supports virtually every Macintosh program. From desktop publishing and on-screen presentations to HyperCard® applications, it improves your type in all kinds of sizes and styles. Each package of Adobe Type Manager includes high-quality outline versions of



When you're ready to add to the 13 outline fonts from Adobe Type Manager, pick up a copy of the Plus Pack. Then you'll have all 35 high-quality fonts contained in the LaserWriter® IINT and IINTX printers.

Adobe, the Adobe logo, PostScript and the PostScript logo are registered trademarks and Adobe Type Manager is a trademark of Adobe Systems Incorporated in the U.S.A. HyperCard, ImageWriter, LaserWriter



Get a FREE Subscription to MacWEEK

Applicants who qualify will receive a complimentary subscription to MacWEEK. All questions must be answered, including those which request specific numbers, to be eligible for qualification. Incomplete forms cannot be processed. The publisher reserves the right to limit the number of free subscriptions. Remember: sign and date this form before returning.

•Please start/continue my FREE subscription to MacWEEK.
☐ 01. Yes ☐ 02. No AAFA

1 Your company's primary business activity AT THIS location (check one only):

Non-Computer Related
- ☐ 01. Aerospace
- ☐ 02. Architecture, Engineering
- ☐ 03. Research and Development
- ☐ 04. Graphic Arts
- ☐ 05. Communications: Publishing, Advertising, Public Relations, Promotion
- ☐ 06. Government: Federal
- ☐ 07. Government: Non-Federal
- ☐ 08. Manufacturing
- ☐ 09. Education
- ☐ 10. Finance: Banking, Accounting, Insurance, Real Estate
- ☐ 11. Health, Medical, Legal
- ☐ 12. Retail, Wholesale, Distribution
- ☐ 13. Agriculture, Mining, Construction, Oil, Transportation, Utilities

Computer Related
- ☐ 20. VAR/VAD
- ☐ 21. Retailer/Distributor
- ☐ 22. Systems House/Data Processing Service
- ☐ 23. Manufacturer (Computers, Software, Peripherals)
- ☐ 24. Computer Consultant
- ☐ 99. Other Businesses & Services (please specify) _____

2 Your Professional Title (check one only):
- ☐ A. Chairman/President/Owner/Partner
- ☐ B. VP/Controller/Treasurer
- ☐ C. General Manager/Director
- ☐ D. Micro Manager/Specialist/Coordinator
- ☐ E. Project Manager
- ☐ F. Art Director/Graphic Designer/Artist/Illustrator
- ☐ G. Manager/Supervisor (not listed above)
- ☐ H. Architect/Engineer
- ☐ I. Systems Analyst/Programmer
- ☐ J. Consultant/Advisor
- ☐ K. Scientist
- ☐ L. Educator
- ☐ M. Editor/Writer
- ☐ N. Professional (Doctor, Lawyer, etc.)
- ☐ O. Accountant
- ☐ P. Representative
- ☐ Z. Other (please specify) _____

3 Your department/function at this location (check one only):
- ☐ A. Engineering/Systems Engineering
- ☐ B. Research & Development
- ☐ C. Communications/Publishing/Public Relations
- ☐ D. Art/Creative Design
- ☐ E. MIS/DP/Information Systems
- ☐ F. Manufacturing/Operations/Production
- ☐ G. Sales/Marketing
- ☐ H. Administration/Management/Personnel
- ☐ I. Accounting/Finance
- ☐ J. Education/Training
- ☐ K. Science
- ☐ L. Consulting
- ☐ Z. Other (please specify) _____

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?
☐ Yes ☐ No
(Write in accurate quantity for all that apply)

		Currently Owned (Quantity)	Plan to Purchase (0-12 Months) (Quantity)
Macintosh IIcx/Macintosh IIx	1		
Macintosh IIci	2		
Macintosh II	3		
Macintosh SE/30	4		
Macintosh SE	5		
Macintosh Portable	6		
Macintosh Plus	7		
Macintosh (Other)	8		
IBM/Compatible Micro	9		
Workstation (e.g. Apollo, Sun)	10		

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year (answer one only):
- ☐ A. Retailer: sold per year _____ (specify quantity)
- ☐ B. Reseller: resold per year _____ (specify quantity)
- ☐ C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)
- ☐ D. Not Applicable

Required: Company name and company street address must be written below or applications cannot be processed. *Please print.*

First Name _____ Last Name _____
Title _____ Business Telephone _____
Company Name _____
Division _____ MS _____
Street Address (Where you work) P.O. boxes not accepted on this line. _____
City _____ State _____ Zip _____

Optional: Enter home address below ONLY IF YOUR COMPANY WILL NOT ACCEPT DELIVERY. (Company information is still required.)

Post Office Box or Street Address _____
City _____ State _____ Zip _____

6 Please check the Mainframe(s) or Minicomputer(s) at your location (check all that apply):
☐ 01. VAX ☐ 02. IBM ☐ 03. Other ☐ 09. None

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?
☐ Yes (If yes, please check all that apply) ☐ No

Computers
- ☐ 01. Macintoshes
- ☐ 02. Workstations
- ☐ 03. Minis, Mainframes

Connectivity
- ☐ 10. Local Area Networks
- ☐ 11. Modems
- ☐ 12. Micro/Mini/Mainframe Links
- ☐ 13. Communications Software

Peripheral Equipment
- ☐ 20. Laser Printers
- ☐ 21. Color Printers
- ☐ 22. Color Monitors
- ☐ 23. Hard Disks
- ☐ 24. Backup Systems
- ☐ 25. Plotter, Charting Devices
- ☐ 26. Scanners

Add-in Boards
- ☐ 40. Memory Boards
- ☐ 41. Graphic Boards
- ☐ 42. MS DOS Boards
- ☐ 43. Ethernet Boards

Software
- ☐ 50. CAD/CAM
- ☐ 51. Graphics
- ☐ 52. Desktop Publishing
- ☐ 53. Desktop Presentation
- ☐ 54. Database
- ☐ 55. Programming
- ☐ 56. Accounting, Payroll
- ☐ 57. Spreadsheets
- ☐ 58. Music
- ☐ 59. Project Management
- ☐ 60. Word Processing
- ☐ 61. Utilities

8 If you help purchase, specify, recommend or approve Macintosh Computers, software or peripherals, for how many MACs do you have this involvement over the course of one year?
- ☐ 01. 500 +
- ☐ 02. 100-499
- ☐ 03. 50-99
- ☐ 04. 20-49
- ☐ 05. 10-19
- ☐ 06. 4-9
- ☐ 07. 1-3
- ☐ 09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):
- ☐ 01. Local Area Network
- ☐ 02. Communicate with corporate workstations, mini or mainframe computers
- ☐ 03. Communicate with remote mini or mainframe computers
- ☐ 04. Communicate via modem
- ☐ 05. Voice/Data
- ☐ 09. Other (please specify) _____

10 Indicate how many employees there are in your entire company (check one only):
☐ 01. 1000 or more ☐ 02. 100-999 ☐ 03. Under 100

11 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

Name _____

Title _____ Dept _____

•
Your Signature _____
Title _____ Date ____/____/____

PLEASE BE SURE THAT ALL QUESTIONS ARE ANSWERED.

FOLD HERE FOR MAILING DO NOT STAPLE—TAPE HERE

Place stamp here. Post Office will not deliver without postage.

MacWEEK

P.O. Box 5806
Cherry Hill, N.J. 08034-9641

FOLD HERE FOR MAILING DO NOT STAPLE—TAPE HERE

Boldface EZRA SHAPIRO

What are you going to do if (when) it fails?

Last fall my hard disk, a 2-year-old Jasmine DirectDrive 160, began showing unmistakable signs of imminent power supply failure. My local Apple dealer, a good fellow, suggested I send the drive back to Jasmine for out-of-warranty repair. Like any sheep that doesn't realize it's being led to the slaughter, I took his advice.

It took me several tries to reach Jasmine's service department on the phone. Each try was accompanied by long periods of music on hold, which should have tipped me off right there. Nevertheless, I persevered, and one morning at 6:30 PST, I spoke to a live voice, which issued a return authorization number, assuring me that the repair was minor and should take no more than a week.

I packed the drive in its original carton and shipped it off to Jasmine. They received the box on the last day of October, and I began the Long Wait.

After two weeks, I started calling Jasmine. I listened to the canned voice-mail brush-offs so many times that I can still recite them. I left pitiful pleas for information with the message center operator. None of my phone calls was ever returned.

Finally, by mid-December, I'd had enough. Tired of being treated like a normal customer (which I am, having purchased the drive from ComputerWare Inc. of Palo Alto, Calif.), I hauled out my press credentials and called one of the Jasmine powers that be.

The Power apologized profusely, explaining that the company had fallen a little behind. He courteously offered to check out the situation for me. Miraculously, I had the drive, along with its new power supply, in my hands a few days later. I have no idea how long the drive would have been held hostage had I not resorted to heavy artillery.

I'm not relating my saga merely to embarrass Jasmine; I like the drive. And I hope that the company has cleaned up its act by now. I'm telling the story simply because it's not atypical; everyone I know who uses computers extensively has similar tales of woe.

Everybody has a complaint. The complaints include defective merchandise, slow repairs, unreadable documentation, busy support lines, whatever. Talking about my drive with a group of people is like mentioning dentistry or surgery; the conversational floodgates open and soon the whole crowd is griping bitterly.

For a business user in a decent-sized city, these incidents are irritating but not lethal. When my Mac or printer goes down here in Los Angeles, I simply call Rent-A-Mac. The replacement unit sits on my desk for as long as it takes to accomplish repairs. No big deal. Those in the outlands have it rougher.

The users most at risk are those working in the graphic arts, particularly in multimedia. Why? Easy. More equipment and software from more vendors.

Printers, scanners, font servers, trackballs, modems, digitizing tablets, backup devices, faxes, film recorders and CD-ROM players. Add sound equipment and the list doubles. And that's just on the hardware side; graphic arts folks need a wide array of specialized software products for daily operation. When one link in the chain goes, the work grinds to a halt. We're talking Nightmare City.

Someday, I'd like to make up a batch of adhesive stickers emblazoned with one brutally simple slogan: Plan for disaster. I'll be first to paste one on the front of my Macintosh. Then I'll hand them out to all my friends in the graphic arts.

Nobody with so much at stake in the smooth functioning of electronic equipment should be without contingency plans and a clear knowledge of their options.

The first step is to compile a list of service and support phone numbers so you know who to call in an emergency. The second step is to maintain awareness of the reputation of the manufacturers of the products you use and the companies that service those products. For most of us, this means reading news publications thoroughly, participating in users groups, taking part in appropriate conferences on the on-line systems, and listening to friends with similar needs. It's not hard to do.

Had I been less casual about keeping my ear to the ground, I might have heard about Jasmine's repair delays. Had I done my homework, I would have known a local tech who could have solved my problem in half an hour. In the final analysis, those of us who catalog our horror stories are as much at fault as the companies we blame.

Think about it. □

the 13 most popular Macintosh fonts. Then, when you're ready for more variety, you can get 22 additional fonts in the Plus Pack. But that's just the beginning.

Because Adobe Type Manager also works with the more than 550 typefaces from the Adobe® Type Library, as well as most other PostScript® Type 1 fonts.

When it's time to print, Adobe Type Manager makes sure those typefaces look as good as ever out of your PostScript-equipped laser printer—and better than ever from your Apple ImageWriter®, Hewlett-Packard DeskWriter™ and most other QuickDraw™ devices, including film recorders and fax machines.

Best of all, Adobe Type Manager gives you all these WYSIWYG features for a mere $99. And the variety of the Plus Pack is yours for just $198.

So call 1-800-344-8335 for the name of your nearest Adobe Authorized Dealer (outside the U.S.A. and Canada, call your local distributor).

Because now's the time to start seeing things as they really are.

New upgrade
Improved version 1.2 now available

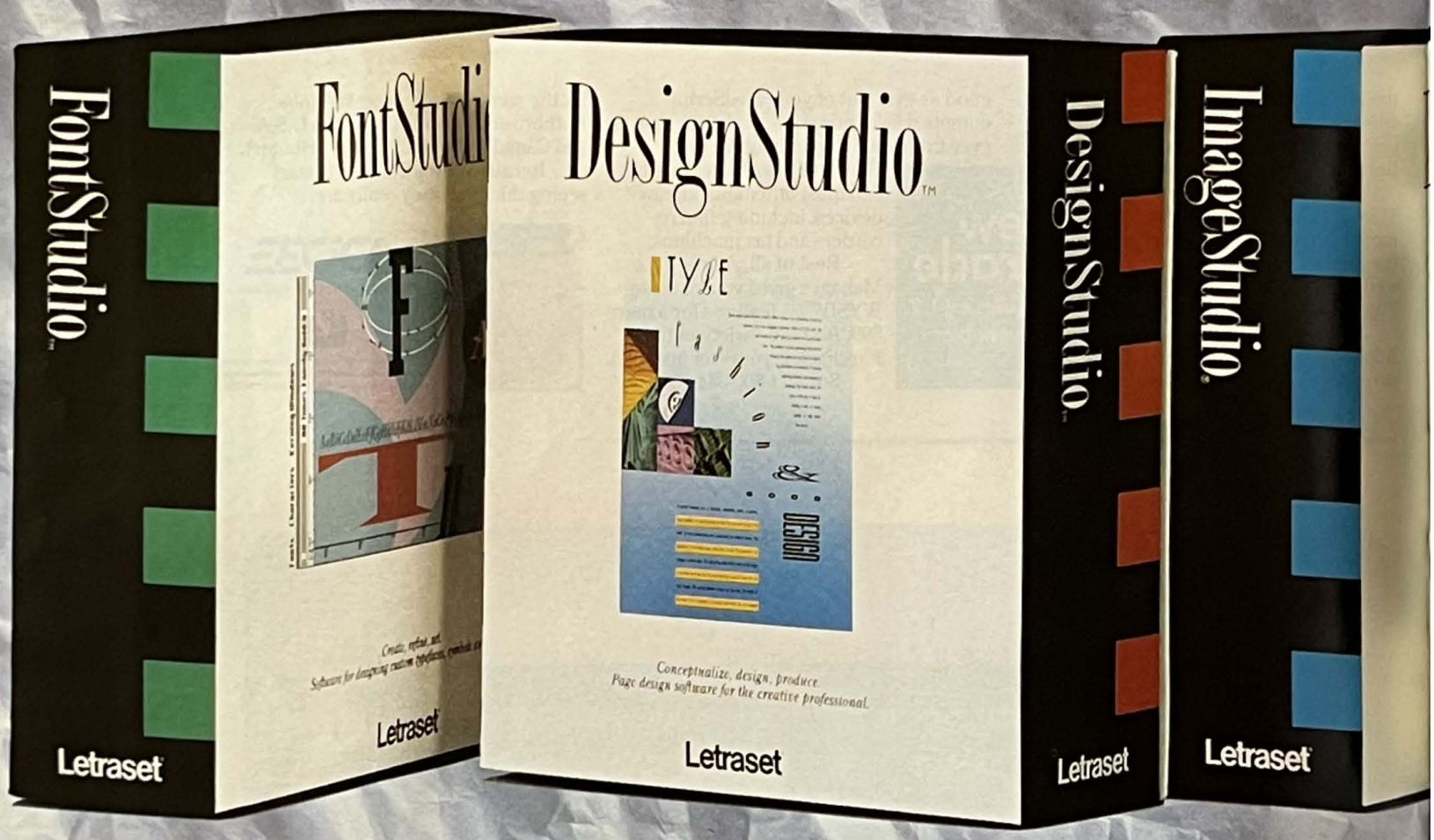
ADOBE®
Adobe Systems Incorporated

Look for this symbol on computers, printers and other products that include PostScript software from Adobe Systems. It's your guarantee of quality and compatibility.

and Macintosh are registered trademarks and QuickDraw is a trademark of Apple Computer, Inc. DeskWriter is a trademark of Hewlett-Packard Co. © 1989 Adobe Systems Incorporated. All rights reserved.

FontStudio™
The new standard for font design and modification of existing fonts, including LetraFont™ & PostScript® Type 1 and 3 formats. Powerful outline drawing tools for the design of letter forms, logotypes and symbols. Automatic or manual kerning table generation. Anti-aliasing and color palettes enhance screen display. Hint creation improves low resolution printing and video display plus support for all PostScript® high-resolution typesetters. Creates standard PostScript type 3 characters & fonts.

DesignStudio™
The only page composition program which combines precision with total design flexibility. Professional typography plus unsurpassed object creation and image manipulation features. Full support for 24-bit color, PANTONE MATCHING SYSTEM®* Color range and prepress links. Support for all popular word processing and image file formats. Add-on modules provide extended functionality and features.



INTRODUCING FIVE OF FEATURES FOR DESIG

Letraset, Designstudio, Colorstudio, Imagestudio Letrastudio, Fontstudio and Letrafont are trademarks of Esselte Pendaflex Corporation in the United States, of Letraset Canada LTD. in Canada, and of Esselte Letraset Limited elsewhere and are widely protected by registration.

*Pantone, Inc.'s check-standard trademark for color reproduction and color reproduction materials. PANTONE Computer Video simulations used in this product may not match PANTONE-identified solid color standards. Use current PANTONE Color Reference Manuals for accurate color. Macintosh is a registered trademark of Apple Computer Inc. PostScript is a registered trademark of Adobe Systems, Inc.

This advertisement was created and produced using Letraset Graphic Design Software. "PANTONE Color Computer Graphics"© Pantone, Inc., 1986, 1988

Software solutions for design and publishing have never been easier to integrate than now. Introducing the Studio Line from Letraset. Five professional graphic applications, each the best in its class. Together they form a complete tool set for the electronic studio. Support for the creative process from concept development to color separations... every step of the way.

ImageStudio®
The first program to bring grayscale image compositing and retouching to the Macintosh®. Comprehensive value and contrast control for black and white photographic images. Customizable effects and retouching tools, plus import and export of all popular image file formats. Add-on modules provide extended capabilities and features.

ColorStudio®
The premier application for 24-bit true-color image creation, compositing and retouching. Brings prepress quality color to the desktop. Full density masking and powerful paint and retouching tools provide the designer with unlimited creative options. Achieve predictable and repeatable color results with total control of image input, display and output. Produce professional color separations with PostScript® imagesetters or supported pre-press systems. Add-on modules extend functionality.

LetraStudio®
The advanced display type design tool for logotypes, headlines and video titling. Real-time, interactive control provides immediate visualization of typographic compositions. Features include scaling, rotation, proportional distortions and extremely precise letter spacing. Exports all popular image file formats. Compatible with LetraFont™, PostScript® Type 1 and 3 fonts.

THE MOST POWERFUL N AND PUBLISHING.

Only from Letraset, the leading supplier of tools for design and visual communication. See Letraset Studio Line products at your local Authorized Letraset Dealer or Reseller. For information in the U.S., call 1-800-343-TYPE. International users may contact the Letraset subsidiary in their country.

Letraset

L
GRAPHIC DESIGN SOFTWARE

When LaserMAX Made Headlines Lino Also Made the Paper.

This ad was set at 1000 x 1000 TurboRes on plain paper!

LaserMAX Announces TurboRes™

On November 13, 1989, LaserMAX made headlines when we announced TurboRes. This patent-pending printer enhancement allows LaserMAX to *dramatically* increase laser printer resolution. Our proprietary new technology lets us control the size of the pixels on the printed page, eliminating the coarse steps between pixels (which ordinarily show up as jagged edges on type printed at low, 300-dpi resolution). Instead, TurboRes creates plain-paper typesetting that rivals phototypesetting–so you won't need to go to Lino anymore.

TurboRes enhances the capabilities of all LaserMAX products, which come complete with 35 standard typefaces, and work with the Macintosh II, IIx, IIcx, IIci, and beyond.

Goodbye NTX, Hello NTQ

If you already own an Apple LaserWriter, you're in luck. With a LaserMAX MX6 controller you can boost your resolution from 300 dpi all the way up to 800 x 800 TurboRes for **N**ear **T**ypeset **Q**uality.

The MAXimum

If you're the type who never settles for less than the MAX, you'll want the LaserMAX 1000. With 1000 x 1000 TurboRes, you'll need a printer's loupe to prove that the output isn't traditional typesetting. But unlike phototypesetting, the LaserMAX 1000 is:

- Low-cost (only pennies per page),
- Low-maintenance (no toxic chemicals),
- Very affordable ($7995).

Free Sample Output

To learn more about the magic of LaserMAX with TurboRes, call us now at **(612) 944-9696**. We'll send you a page of actual output so you can see just how good TurboRes really is. Then you can decide for yourself which you'd rather have: the technology that lets you make tomorrow's headlines, or yesterday's classifieds.

LaserMAX SYSTEMS™

7150 Shady Oak Road, Eden Prairie, MN 55344 FAX: (612) 944-9151

TurboRes™ is a trademark and patent-pending technology of LaserMaster Corporation. TurboRes enables 1000 x 1000 Plain-Paper Typesetting—Fast. Macintosh and LaserWriter are registered trademarks of Apple Computer Inc.

The Cutting Edge LASLO VESPREMI

Printer advances edge traditional pre-press

The world of color desktop publishing is going great guns. A second generation of color printers with photo-quality output just may change the nature of color pre-press, in some cases eliminating it altogether.

Those who attended the Seybold Conference on Electronic Publishing held in San Francisco in September 1989 got a glimpse of the future: the Canon Color Laser Copier 500.

Copier? Definitely. The 400-dpi CLC 500 produces convincing plain-paper copies of color images at speeds of five pages a minute.

So, what does that have to do with your Macintosh? Sometime soon, the Mac will be sending pages of text and full-color pictures directly to the CLC 500 to be output at five pages per minute. Canon, which pioneered the printing engine of the original LaserWriter, is reported to have spent $100 million to develop the color laser engine that lets the CLC produce photo-quality prints effortlessly on plain paper. Canon also developed an interface unit for the CLC 500 that allows input from a variety of electronic sources, including computers. Before you rush out to buy one, note that the fully loaded CLC 500 with the Intelligent Processing Unit interface costs up to $70,000, although for that price you can also use it as a color copier.

Those in need of low-volume printing may be able to go from the desktop directly to their printer.

Those using color Macs, beginning with the Mac II, quickly demanded printing capabilities to match. Efforts in that area have produced color printers varying in price and quality from color inkjet printers such as those from Hewlett-Packard and Tektronix ($1,395 and $2,495, respectively) to color thermal wax transfer printers such as the QMS ColorScript 100 series (starting at $9,995), to the more recent photo-quality or near-photo-quality printers such as the DuPont 4Cast printer ($76,400).

They're all great — but limited.

Color inkjet printers have a place producing simple color graphics and graphs for informal presentations and reports. Color thermal wax transfer printers are a step up the scale. These machines provide proofing at a minimal level in the four-color pre-press process and also deliver better-looking images for presentations. But thermal transfer technology also has its limits: It relies on 300-dpi engines, and dithering greatly reduces resolution and image quality.

The common denominators of the second generation of color printers are high-fidelity output that looks almost photographic and high prices ($20,000 to $70,000). The Nikon, Kodak and DuPont machines use variations of thermal dye transfer technology in which a large number of heated thermal heads transfer color dye particles from a continuous roll onto a special photo-paperlike base. The nominal resolution is 300 dpi (less in Nikon's case), but since each color is printed in 256 gradations, the output is astonishingly detailed.

Used as color Matchprint devices, these printers may be the writing on the wall for established colorproofers such as Chromalin, Fuji and others. Making color Matchprints has been expensive, time-consuming and labor-intensive to date. Proofs made with the new printers are not only cheaper ($5 vs. $75 to $100 per proof), but also faster. This cost can justify an in-house proofer by the time saved alone.

But the Canon goes a step beyond the others. The CLC 500, with its laser technology, is even faster, uses plain paper and costs still less per page. Its capabilities offer the possibility of cutting out all phases of pre-press as we know it today, at least for short-run printing.

This means that people in need of low-volume printing (up to 500 copies) may be able to go from the desktop directly to the actual printer without the need of paste-up, camera, film, stripping and proofing. This may be bad news for some, but for those of us who need affordable color publishing, the end of the rainbow just might be machines like the Canon CLC 500. □

Laslo Vespremi, a longtime desktop publishing guru, works at Electronics For Imaging Inc., a San Bruno, Calif.-based company specializing in color technology.

DIGITAL DISPLAY

Academy Engraved	Compacta	Plaza
ALGERIAN	Compacta Italic	Premier Lightline
NEW Amati	Compacta Bold	PREMIER Shaded
NEW ITC American Typewriter Medium Condensed	Corinthian Light	PRINCETOWN
NEW ITC American Typewriter Bold Condensed	Corinthian Medium	NEW Proteus Book
NEW Aquinas	Corinthian Bold	NEW Proteus Book Italic
NEW Athena	NEW Corinthian Bold Condensed	NEW Proteus Light
AUGUSTEA Open	Corinthian Extra Bold	NEW Proteus Medium
NEW ITC Avant Garde Gothic Medium	NEW Corvinus Skyline	NEW Proteus Medium Italic
BALLOON Extra Bold	Crillee Italic	NEW Proteus Bold
Balmoral	Crillee Extra Bold Italic	NEW Proteus Extra Bold
Belwe Mono	Demian*	Pump
Belwe Mono Italic	NEW EMPHASIS	NEW Radiant Bold Extra Condensed
Bernhard Antique Bold Condensed	ENVIRO	Rage Italic*
NEW Bodoni Campanile	Equinox	NEW Rapier
Bodoni Extra Bold	ITC Eras Medium	REFLECTION
Bordeaux Roman	ITC Eras Demi	NEW Robotik
Bordeaux Italic	ITC Eras Bold	NEW Robotik Italic
Bordeaux Script	Flash Light	Rockwell 371
NEW Bramley Light	Frankfurter Medium	NEW Rockwell Bold 391
Bramley Medium	FRANKFURTER	Romic Light
NEW Bramley Bold	Freestyle Script	Romic Light Italic
NEW Bramley Extra Bold	Freestyle Script Bold	Romic Medium
NEW Brighton Light	NEW Friz Quadrata	SLIPSTREAM*
NEW Brighton Light Italic	NEW Gill Display Compressed	NEW SPINE 377
Brighton Medium	NEW Gill Extra Bold Condensed	Spotlight
NEW Brighton Bold	NEW Gill Kayo Condensed	Squire
BROADWAY Engraved	Gillies Gothic Bold	SUPERSTAR
Bronx*	Gillies Gothic Extra Bold Shaded	NEW Tiger Rag
Cabaret	Harlow Solid	Times New Roman
Caslon 540 Italic	Harlow	Times Extra Bold
Caxton Roman Light	NEW HARVEY	NEW Tropica Script
Caxton Roman Light Italic	Helvetica Medium Condensed	Van Dijk
Caxton Roman Book	Helvetica Bold Condensed	Vegas*
Caxton Roman Bold	Highlight	
Caxton Roman Extra Bold	Informal Roman	
CHROMIUM ONE*	NEW IRIS	
NEW Claude Sans	L.C.D.	
NEW Claude Sans Italic	Mekanik	
NEW COLLIER HEADING	Mekanik Italic	
Commercial Script	Old English	

This advertisement was created and produced using Letraset Graphic Design Software.

Distinctive styles, perfectly formed, exclusively from Letraset.

Now through LetraStudio® software, these true display fonts are available electronically in all colors at the press of a button.

Type becomes graphic, effects and manipulation opportunities become limitless.

To go digital in display typography, call 1-800-343-TYPE.

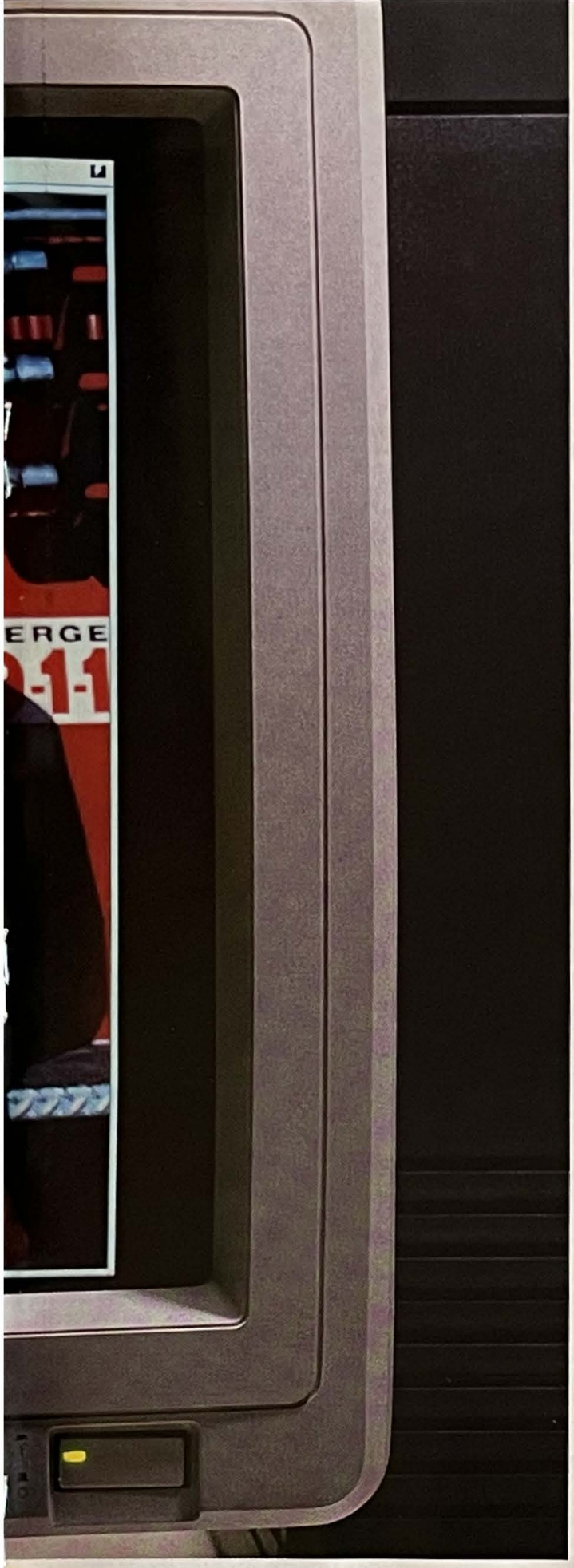
Letraset®
Graphic Design Software From The Graphic Design Company

THE LetraFont™ LIBRARY

⊗ ESSELTE

*2 MB RAM required. LetraStudio files using LetraFont type or other font sources export to page layout and drawing programs.
Letraset, LetraFont, and LetraStudio are trademarks of Esselte Pendaflex Corporation in the United States, of Letraset Canada Limited in Canada, and of Esselte Letraset Limited elsewhere and are widely protected by registration. © 1990 Esselte Pendaflex Corporation

Before you blow $15,000 on a SPARCstation™, PC or Mac®, look at workstation that blows them



By the time you've configured a standard monochrome workstation or PC to run color applications with good performance, you'll have paid for a base model Personal IRIS™.

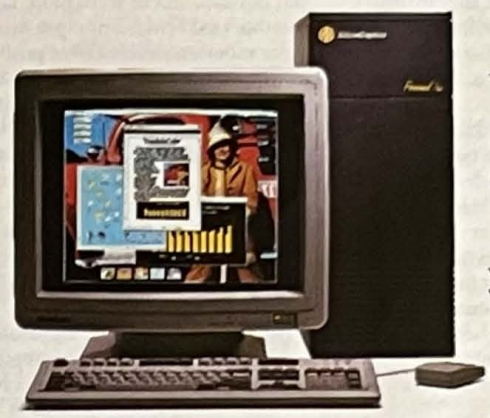
Further investigation will show you that if you're serious about color, it pays to *start* with the Personal IRIS.

Every IRIS® system is specifically designed to support the most demanding color applications, from 3D CAD to animation to color publishing. They're not merely upgraded monochrome systems. We don't even make a monochrome system.

The Personal IRIS balances the highest performance RISC processor with the most powerful graphics processors available. The result is a system that gives you astonishing color performance.

The Personal IRIS also offers you nearly unlimited expansion.

Our binary compatible product family takes you from the 10 MIPS Personal IRIS through the 160 MIPS POWER Series™.



The Personal IRIS™ Color Workstation*

And, because we live color graphics, we offer a UNIX® interface like you've never seen. Graphical, colorful, and easy to use.

Great color demands a great computer. If you're serious about color, you owe it to yourself to see the Personal IRIS from Silicon Graphics.

The Personal IRIS is part of the broadest, most powerful binary compatible family of graphics workstations and servers.

$9,000 the $15,000 all away.

SiliconGraphics®
Computer Systems

Silicon Graphics Marketing Services • 707 California Street, Mountain View, CA 94041 • 1-800-952-6300, dept. S195

©1990, Silicon Graphics, Inc. Silicon Graphics, the Silicon Graphics logo, and IRIS are registered trademarks, and Personal IRIS and POWER Series are trademarks of Silicon Graphics, Inc. Registered trademarks: UNIX, AT&T; Macintosh, Apple Computer, Inc. Trademark: SPARCstation, Sun Microsystems. *Shown with optional 19" 1280 x 1024 color monitor.

Imagesetters: The latest and greatest

By J. Scot Finnie

The pace quickens, the competition sharpens and the goals are set higher as imagesetter manufacturers announce new products and strive to provide ever higher-quality functionality to a widening audience of users. For desktop publishers and service bureaus, 1990 may be the year of the imagesetter.

The drive is on to go beyond the basic typesetting features, which were brought to the desktop when Linotype Co. delivered the first PostScript imagesetter to the Macintosh community in 1985. Improved color capabilities in applications, in the Mac and in other hardware are pushing imagesetters to keep pace with faster PostScript implementations and realistic color capabilities, particularly the capability to output film for four-color separation of scanned slides and photographs.

Color at the end of the rainbow. "Two years ago," said Al Perelli, Agfa Compugraphic's marketing manager of output devices, "there were more monochrome monitors sold [with our equipment] than color monitors; today the opposite is true." For Perelli, whose company is based in Wilmington, Mass., the bottom line is that imagesetting is in a state of revolution.

TypeWorld publisher Frank Romano agreed, noting that he's tracked typesetter and imagesetter service bureaus for four years. "Today there are more than 1,100 such bureaus," the Salem, N.H.-based publishing consultant said. And he expects to see 2,000 by the end of the year.

According to Edward Chrusciel, Optronics graphic arts marketing director, typesetting was already revolutionized by the Mac and the LaserWriter. "Now what we see is that the production aspect, the ability to assemble pages, is being revolutionized as well," he said.

The vendors are waging a features war, and a growing number of users are absorbing and using each new technique and option as it comes along, then demanding more.

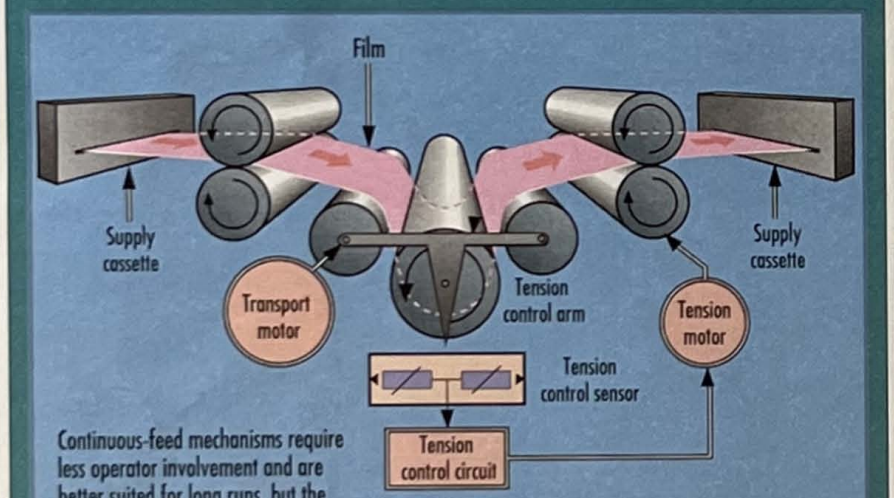
New features around the corner. At Varityper Inc., for example, several new features have been released in recent months that are designed to give users more power, flexibility and control. The new Series 4000 line of imagesetting products has a modular design that lets users connect the printer or imagesetter of their choice to the controller.

In this new line comes a desk accessory application called Print Master that operates as a chooser, controls the company's hard-disk-based page buffer, and permits preprogrammed and user-programmable print transfer options that help produce the best output under varying conditions. The East Hanover, N.J.-based company, which is owned by Tegra Inc., also has released a new higher-speed RIP (raster image processor) that can be retrofitted to previous Varityper models.

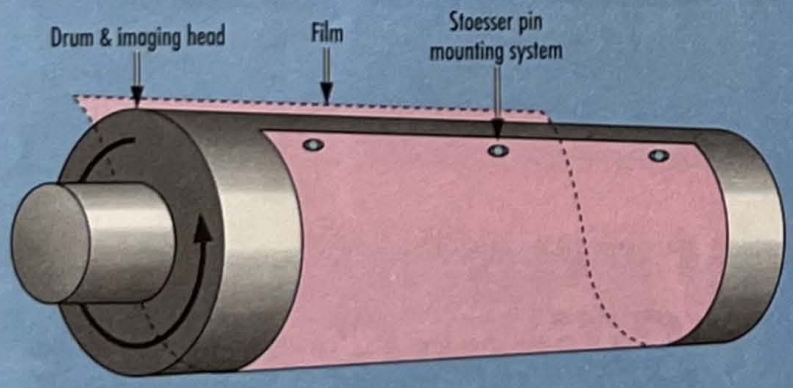
Speed thrills. Top on Jim Waldron's wish list of new features is higher throughput. Waldron, who is a partner in the New York City-based graphic design firm Burns, Connacher & Waldron, which has an Agfa Compugraphic 9400, observed: "I'd love to have my machine fire out film at the speed of an Apple LaserWriter."

See Imagesetters, Page 40

Pin mount vs. continuous-feed mechanisms



Continuous-feed mechanisms require less operator involvement and are better suited for long runs, but the complexity of the system makes registration more difficult to control.



A pin mounting system requires the operator to mount each sheet of film, but its simplicity assures better control of registration.

Hands On

Shopping for a color service bureau

Experience, equipment are key ingredients

By Henri Froissart

Service bureaus. These two simple words can strike fear into the hearts of artists who, after spending hours perfecting their four-color artwork, believe they are losing control of the final output to film. Too often, the service bureau's results bear little resemblance to what was in the Adobe Illustrator, Aldus FreeHand or QuarkXPress file; in a worst-case scenario, the film is not even usable by the printer. It doesn't have to work that way, though.

Here are a few guidelines that should help demystify the process of selecting a service bureau for color work.

Shop around. Experience, above all, is the key ingredient: The longer your service bureau has been working with film and color, the more likely it is to produce film that your printer will be able to use. Check with potential vendors to find out how long they have been doing separations and how much they know about pre-press work. If you don't know that much about it yourself, it is a good idea to have your pre-press house or your printer assist you in your search.

The next thing you should focus on is the equipment being used. Color work is more demanding than black-and-white repro-based work and therefore requires the best possible machines. Avoid low-end or obsolete equipment and go for the most up-to-date imagesetters, such as the Linotronic 300 or the Agfa Compugraphic 9600. Those machines offer tighter registration, which is crucial for color; they are also usually faster, which should be a consideration, especially if your service bureau charges by the minute (as opposed to charging by the page). Make sure all the equipment is being calibrated regularly; ideally, there should be an imagesetting device and a processor dedicated to film only, which ensures consistent exposure and more-stable chemical processing.

If, after narrowing the selection through equipment considerations, you are still unable to determine which service bureau will be able to accurately reproduce your artwork, send each vendor a test file and analyze the various outputs. Here are the most important elements you should consider when creating the test file and analyzing it.

One step at a time. Create your document in the application(s) you will be using the most. If you are using several programs on a consistent basis, try to use them all in your test file. For instance, if you are working primarily with QuarkXPress and Illustrator 88, create your test file in Illustrator, place it in XPress and give the XPress page to your service bureau.

Make sure your document is easy to analyze. Most importantly, your file should contain labeled tint swatches with register marks for each plate (CMYK, or cyan, magenta, yellow, black), representing the entire gray scale in 10 percent increments (see Fig. 1). It is also useful to have an area as wide as possible filled with a constant

See Hands On, Page 42

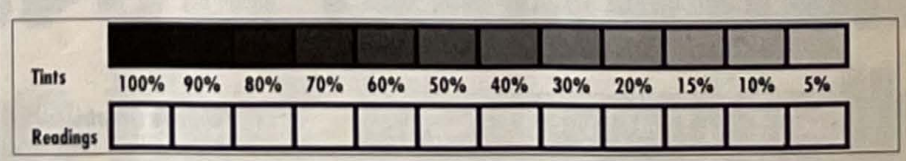


Fig. 1. A labeled tone wedge like the one above can help ensure that the specified tints match the densitometer readings.

8-bit upgrades invade Apple scanner.

Scanned with the Abaton 8-bit Upgrade

Get all the gory details.

In as few as thirty minutes, an 8-bit Abaton Upgrade can invade your Apple scanner. Leaving you with more detail in your scanned images than before. Because Abaton's 8-bit Upgrade lets your 4-bit Apple scanner read 240 more shades of gray than the current 16. So your black and white images have all the rich details found in your original photos.

And this invasion won't be a nightmare. Just place your order, and within 48 hours, a technician will call to schedule an upgrade encounter at your home or office. There's no risk, since your upgraded scanner is covered for 90 days. Or you can extend the warranty to suit your needs.

But best of all, the Abaton 8-bit Upgrade makes it easier for you to publish. You can see every page before it's sent to a phototypesetter. And that's a publishing plus.

If you want all the gory details on Abaton's 8-bit Upgrade invasion, call Abaton at *1-800-444-5321*, and let Abaton make your ideas easier to publish.

Abaton

We Make Your Ideas Easier to Publish™

Abaton and "We Make Your Ideas Easier to Publish" are trademarks of Everex Systems, Inc. Other brand names and product names are trademarks and registered trademarks of their respective companies.

Imagesetters

From Page 38

He's not alone. Virtually every user and vendor contacted for this story identified faster RIP processing as a paramount concern. Speed improvement is one of the more apparent battlegrounds of the imagesetter feature wars. Despite its obvious importance as a standard, PostScript is still not as fast as most imagesetting service bureaus would like. So Adobe Systems Inc., the PostScript clone companies and the imagesetting vendors are working furiously to make up time. One bottleneck is the PostScript interpreter, which forms a part of the RIP. The strategies for speeding up the process involve ever faster processors, more and more RAM, and often proprietary software and hardware adjustments or additions to the PostScript firmware.

So, whose RIP is fastest? Varityper has just released a new RIP that falls into the medium to high end of the imagesetter market. Products from Monotype of Elk Grove, Ill., and Agfa Compugraphic currently are very quick in tests, company representatives say. Optronics claims that its Colorsetter 2000 processes complex files faster than any other imagesetter on the market. (No actual speed times are cited here because of the wide variety in types of files and conditions. See story below for guidelines on imagesetter choices.)

Linotype was just releasing the faster RIP 4 and a new Linotronic 200 model as this story went to press. "The RIP 4 is primarily designed to enhance performance at high resolutions and halftones," said Jim Summers, manager of product marketing for Linotype. "With a new Saturn Plus controller, a coprocessor, a new PROM set from Adobe and optional faster buffer chips, the RIP 4 turns out four-color separations more than 80 percent more quickly than its predecessor, the RIP 3," Summers said.

But there's another reason for the emphasis on throughput. It's one of the four ingredients crucial to practical process color functions. The others, according to Monotype President John Hoffman, are high resolution, small spot size and film transport accuracy.

The last feature is the subject of heated debate among imagesetter manufacturers, and the issue is generally clouded by buzz words and mystery. Film transport accuracy is simply the ability of the machine to move the film in such a way that, for example, when you expose one image twice, it will be in the exact same location on the page. Most manufacturers measure the tendency for their equipment to vary film location in mils (thousandths of an inch). Being off by a mil or two may seem but a slight variation, and for straight typesetting it's practically nothing. But for color separation work, in which four pieces of film must

Buyers, take note

So you're shopping for a service bureau or for in-house imagesetting equipment. Where do you begin?

While factors like throughput, resolution, transport accuracy and dot quality may well be significant in choosing an imagesetter, the craft of coaxing color pages out of PostScript is so new that there are few maxims on the subject. For example, increasing resolution from 1,200 dpi to 2,400 dpi or greater seems to cause more problems with moiré patterns, not fewer, according to many sources. And there is a furious debate over which of several laser technologies is really superior. With some 20 to 30 new imagesetter configurations due to be introduced this year, all companies are anxious to trumpet competitive advantages that may or may not be significant.

But wait! Simple product-to-product comparison is going to get harder, not easier. Already companies like Varityper Inc. are offering an imposing array of configurations with multiple memory, storage and clock-rate options, along with a variety of recorder types. On the other hand, Optronics' Colorsetter is only the first in a series of highly specialized imagesetters that will be even harder to compare directly with general-purpose ones. Tabular matchups are going to get less and less informative.

"All of the current top imagesetting systems are roughly comparable on a technical level," asserted Sanjay Sakhuja, a pioneer in desktop color pre-press and head of Digital Pre-Press International, a San Francisco-based PostScript color shop. Sakhuja said he believes buyers should look for non-technical factors such as support, service, training and a smooth upgrade path so they can take advantage of future improvements.

While imagesetter performance is critical and it makes sense to take note of obvious differences in specifications, customer satisfaction and support policies (although harder to quantify) may be even more important.
— By Steve Hannaford

CA-Cricket Appeals To Any

MIND-BLOWING GRAPHICS FOR YOUR CREATIVE HALF.

Realism, cubism, company logos—with CA-Cricket Draw™ you've got the power to draw them all. That's because CA-Cricket Draw's highly advanced graphics tools let you do things heretofore found only on the most expensive drawing programs. And let you do them with ease.

You can map colors and patterns, use bezier curves for precision, even enhance your drawings with PostScript® special effects. With CA-Cricket Draw you've got the freedom to really let your imagination roam.

CA-Cricket Presents™ is an all-star desktop presentation program that lets you prepare slides, overhead transparencies, handouts and electronic presentations right on your computer. It's even got an outliner to help you get it all together.

More than just a business graphics program, CA-Cricket Presents lets you plot graphs, draw logos, even generate your entire presentation from the outliner with a single click. All in bright, vivid color. With CA-Cricket Presents, you get the best of both worlds in one easy-to-use program.

PostScript is a registered trademark of Adobe Systems, Inc.

be registered together exactly, even such minute variations in film placement can be a problem. Monotype's product manages to achieve accuracy to 2 mils without resorting to page buffering, according to Hoffman. Agfa Compugraphic and Lintotype, other manufacturers that chose to follow a similar course, reported approximate variations of 4 to 6 mils.

"A range of 4 to 6 mils is too high a deviation in image accuracy if you are talking about the highest end of the color spectrum for process color separation," explained Dan Mills, manager of imaging systems at Linotype. "But for tints, computer-generated art and many four-color seps, the 4 to 6 mils range of deviation is adequate. We are not trying to compete with a high-end Hell or Scitex system. To do so would require resolution in the 1 to 2 mils range."

Pages in memory. Varityper claims that its image accuracy is boosted through the use of its page buffering system. Because its system can RIP all four parts of a color separation, hold them in memory on a hard disk and spit them out to the film recorder one after the other, Varityper says its image accuracy is improved. Fluctuations in film and equipment temperature, the company noted, account for some variation in image accuracy. So, the further apart in time that pages from a separation are processed, the greater the likelihood of image variation, explained Tegra President and CEO Bob Trenkamp. With its new line of output machines, Varityper is achieving image accuracy to between 2 and 4 mils, he added.

The company said that the combination of Print Master and its page buffer system also reduces the probability of artifacting or banding problems on color tints caused by the stopping and starting of the film recorder, which generally moves the film faster than the PostScript RIP can process the image. Other companies, such as Linotype, report that they can control stop and start glitches by backing up and resynchronizing a job, and that page buffering is an unnecessary expense.

Traditionally, the best film transport accuracy has been achieved with sheet-fed drum machines such as those used by the Crosfield, Dai Nippon, Hell and Scitex color systems commonly chosen for the high-end work demanded for advertising and some catalogs.

However, with its Colorsetter 2000, Optronics is forging a new market that the company hopes will fall somewhere between the $1-million-plus systems and most

Speed improvement is one of the more apparent battlegrounds of the imagesetter feature wars.

PostScript-based imagesetters. Selling for a base price of $125,000, the Colorsetter 2000 offers image accuracy to much less than 1 mil. While the lack of continuous feed may prove a hindrance to large production jobs such as magazines and newspapers, some users are satisfied with it. Geeter Kyrazis, owner of All Systems Color Inc. of Dayton, Ohio, produces brochures, annual reports and magazines. "Getting the Optronics has been a non-trivial thing for us," he said. "For 95 percent of the process work, we're there."

How small is the spot? Spot size is another feature more vendors and users are beginning to pay attention to. The size, shape and the consistency of the size of the light exposing the image was never as crucial for typesetting as it is for color work. Now companies such as Linotype, Varityper and Optronics have reduced the spot size on their better machines to 20 microns or less.

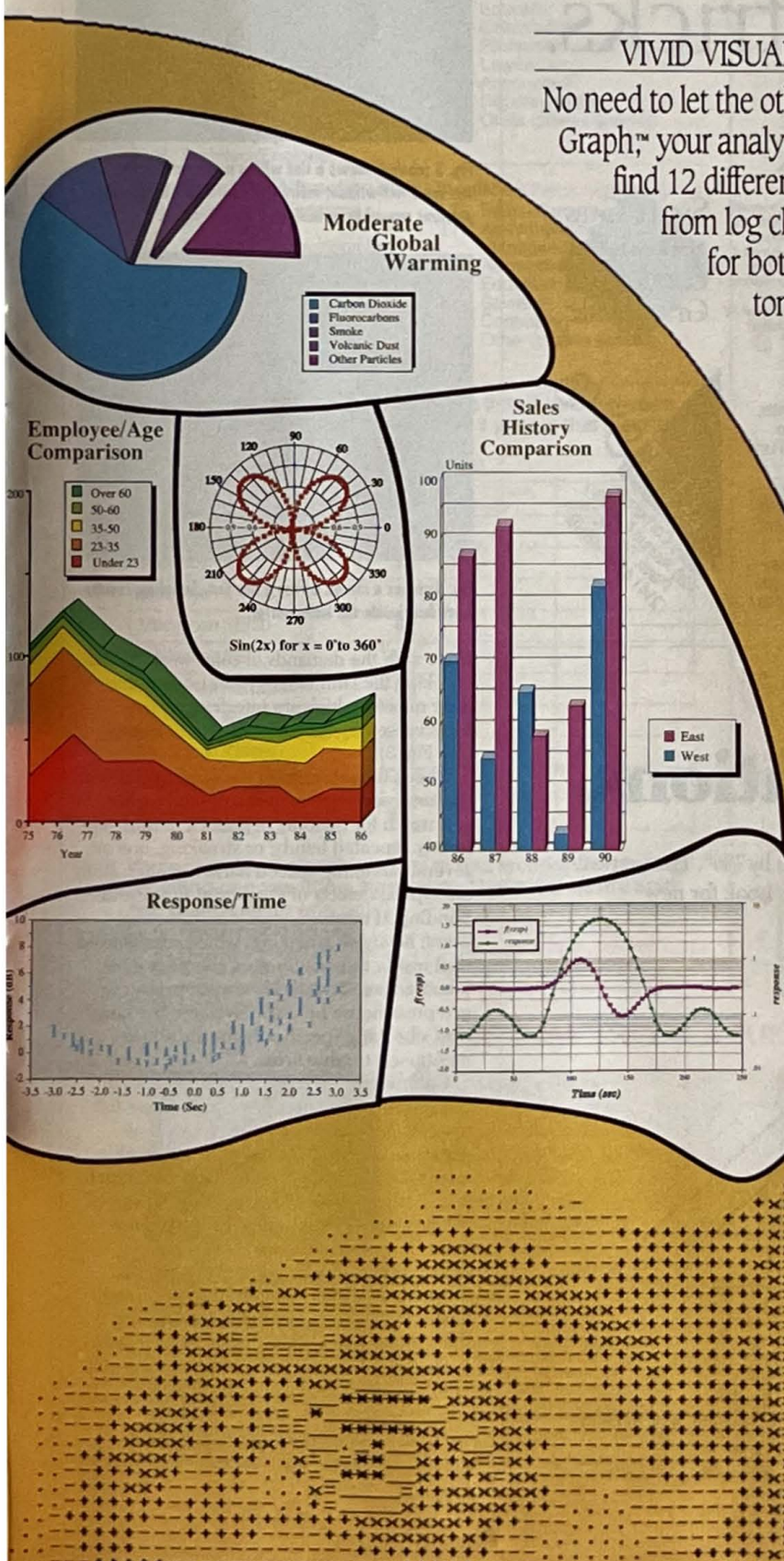
Resolution counts too. Resolution is another important aspect of color processing. It also is subject to frequent changes by manufacturers seeking to boost the perceived productivity of their machines. Linotype just increased the highest resolution of its Linotronic 500 system to match the 2,540 dpi of its lower-cost Linotronic 300 product.

At 3,048 dpi, Varityper's 5330 imagesetter is now competitive with the high-resolution marks of equipment sold by Miami-based Birmy Graphics Corp. and Hyphen Inc. of Wilmington, Mass.

Some of the other features imagesetting companies are working to offer are improved user interfaces, the ability to use multiple RIPs, the ability to output to multiple print engines, better process and transfer control mechanisms, and greater expansion and upgrading capabilities. With the prospect of more and more color applications being performed at the level of the imagesetter, the market can expect an upward spiral of improved imagesetter features. They're not here yet, but it's now foreseeable that a time will arrive when desktop high-end color processing may become a lot more affordable and practical. □

J. Scot Finnie writes for numerous computer publications on topics ranging from artificial intelligence to typography.

one With Half A Brain.



VIVID VISUALS FOR YOUR ANALYTIC HALF.

No need to let the other half have all the fun. With CA-Cricket Graph,™ your analytic side can be every bit as creative. You'll find 12 different graphs to choose from—everything from log charts to polar graphs—with applications for both science and engineering. You can customize fonts, shades and color patterns—even re-arrange and re-size your graphs on the page. With up to 2,700 rows and 40 columns in each data window, CA-Cricket Graph can make even the most complex information look intelligible.

In addition to being easy to use, you'll find that all three CA-Cricket programs can be rather sophisticated. So you won't outgrow them once you learn how to use them.

And all three share one very special feature—their innovative user interface.

No other software gives you so much bang for your buck. Which is why CA-Cricket isn't just the emotional favorite. It's the logical one as well.

For the authorized CA-Cricket dealer nearest you, call 1-800-531-5236 (in Canada, 1-800-663-6904).

COMPUTER ASSOCIATES
Software superior by design.

© 1990 Computer Associates International, Inc., 711 Stewart Avenue, Garden City, NY 11530-4787

Hands On

From Page 38

screen (50 percent black, for example), to make sure that the imagesetter produces an even screen.

In addition, make sure the service bureau has a densitometer and uses it regularly. A densitometer measures the reflective density of a solid black area within your artwork. The measurement you get is called Dmax, which stands for maximum density. It should be higher than 3.0. Otherwise, your printer may not be able to use your film directly and will have to dupe (contact) it, incurring additional costs. Have your service bureau measure and record the tint densities of all your tint swatches. Compare the densitometer measurements with the specified values: The measured values should be within plus or minus 3 percent of the specified values — an industry standard. If they are not within this range, the colors in your future work will not correspond to your specifications. This is probably the greatest weakness of most service bureaus, and one that gives many headaches to designers who discover too late that the printed pieces don't look quite like what they had designed.

Check for accurate registration. Ask your pre-press house to make a single-layer proof, such as a Matchprint, of your samples to tell you whether the plates are in register or not (see Fig. 2). If not, your service bureau is probably using an imagesetter that is not suitable for color work. Another possible scenario is that the imagesetter operator ran out of film in the middle of your job and used a new roll without restarting the job from the beginning. This indicates a lack of experience with the demands of color work. When checking the laminated proof also examine it for moirés, which are interference patterns caused by misadjusted screen angles (see Fig. 3).

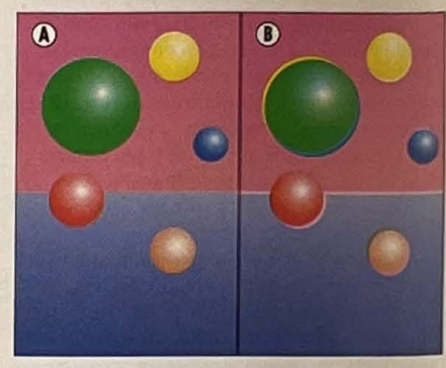


Fig. 2. Good (A) and bad (B) registration.

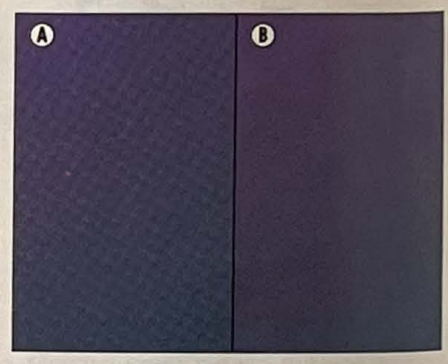


Fig. 3 (above) shows a tint with a moiré pattern (A), and the same tint without moiré (B). Moires are interference patterns caused by misadjusted screen angles.

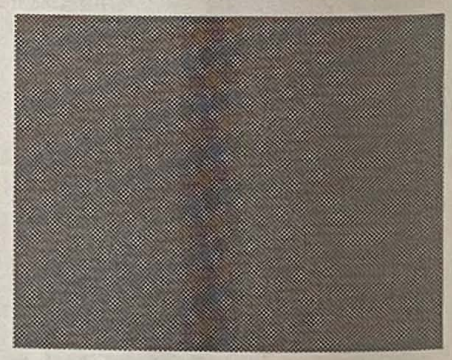


Fig. 4 shows a streak across a flat tint. Streaking results from dust inside the imagesetter.

Check the integrity of the screens. Look at the large screened area mentioned earlier and watch for banding, a pattern of thin, uniformly repeated bands, or streaking, one or several randomly spaced darker streaks. Both are typical defects of PostScript imagesetters. Banding, if minimal, should disappear at press; however, streaking, which results from dust inside the imagesetter, should not be tolerated (see Fig. 4). Have your printer or pre-press house help you evaluate the samples, checking specifically for the above-mentioned trouble areas.

Color work is complex; traditional methods require years of experience and are left to a few people who have high levels of expertise. The Macintosh is giving graphic artists the ability to produce color in a much less costly manner. However, the last step of the process — the manufacturing of four-color film — is in the hands of service bureaus that too often don't have the required background to do the job accurately. Fortunately, it is possible to find the shop that combines expertise in both Macintosh know-how and pre-press craftsmanship, providing that you know what to look for. □

Henri Froissart is technical manager in MacWEEK's art and production departments.

Now you *can* teach an old font new tricks.

With Metamorphosis.

These are standard PostScript outlines - converted by Metamorphosis from an assortment of commercial fonts. Recognize any of your favorites?

Use your favorite PostScript drawing programs to create designs and logos from type outlines.

You can modify any PostScript typeface by converting it to outlines with Metamorphosis - like these variations on ITC Garamond®:

SMALL CAPS
x-height
Condensed
Gray Scale

Metamorphosis® provides a solution for one of the major frustrations with existing PostScript® type: the inability to access the outlines. With Metamorphosis, you can now manipulate type outlines in your favorite drawing programs and really get the most out of using your fonts!

Metamorphosis is a unique utility for converting your PostScript fonts into editable outline formats. The outlines that Metamorphosis produces are identical to the outlines of your original font.

By using any Adobe® PostScript printer, Metamorphosis converts your fonts into editable outlines for use in Aldus® FreeHand™, Adobe Illustrator®, or Brøderbund® TypeStyler™. You can also use them in Fontographer® to create custom type. And those fonts can be used in any Macintosh application.

With all that you have invested in PostScript and PostScript fonts, isn't it time you tried some new tricks with Metamorphosis?

The Altsys Family of quality PostScript products for Creative Types.

Metamorphosis $295.00
Fontographer $495.00
The Art Importer $179.00

ALTSYS
Altsys Corporation
720 Avenue F, #109
Plano, TX 75074
(214) 424-4888

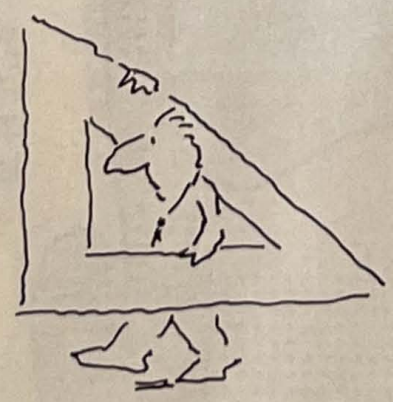
MacWEEK New Mechanical Specifications.

Effective with the March 6, 1990 issue of MacWEEK, vertical trim dimension will downsize by 7/16". The vertical trim size changes from 13-15/16" to 13-1/2". The width of the publication remains the same. Look for new Mechanical Specifications mailing by January 22, for all additional changes.

Publication Trim Dimensions (width x height)

10-3/4" x 13-1/2" (Live area: 10-1/4" x 13")

Tabloid Page
10" x 12-11/16"
Tabloid Page Bleed
11" x 13-3/4"
Tabloid Spread
20-3/4" x 12-11/16"
Tabloid Spread Bleed
21-3/4" x 13-3/4"
Junior Page
7-3/8" x 9-7/8"
Junior Page Bleed
7-7/8" x 10-7/16"
Junior Spread
15-5/8" x 9-7/8"
Junior Spread Bleed
15-5/8" x 10-7/16"



Call your Account Representative or 415-243-3500 for further details.

Get a FREE Subscription to MacWEEK

Applicants who qualify will receive a complimentary subscription to MacWEEK. All questions must be answered, including those which request specific numbers, to be eligible for qualification. Incomplete forms cannot be processed. The publisher reserves the right to limit the number of free subscriptions. Remember: sign and date this form before returning.

● **Please start/continue my FREE subscription to MacWEEK.**
☐ 01. Yes ☐ 02. No

AAFA

1 Your company's primary business activity AT THIS location (check one only):

Non-Computer Related
- ☐ 01. Aerospace
- ☐ 02. Architecture, Engineering
- ☐ 03. Research and Development
- ☐ 04. Graphic Arts
- ☐ 05. Communications: Publishing, Advertising, Public Relations, Promotion
- ☐ 06. Government: Federal
- ☐ 07. Government: Non-Federal
- ☐ 08. Manufacturing
- ☐ 09. Education
- ☐ 10. Finance: Banking, Accounting, Insurance, Real Estate
- ☐ 11. Health, Medical, Legal
- ☐ 12. Retail, Wholesale, Distribution
- ☐ 13. Agriculture, Mining, Construction, Oil, Transportation, Utilities

Computer Related
- ☐ 20. VAR/VAD
- ☐ 21. Retailer/Distributor
- ☐ 22. Systems House/Data Processing Service
- ☐ 23. Manufacturer (Computers, Software, Peripherals)
- ☐ 24. Computer Consultant
- ☐ 99. Other Businesses & Services (please specify) _____

2 Your Professional Title (check one only):
- ☐ A. Chairman/President/Owner/Partner
- ☐ B. VP/Controller/Treasurer
- ☐ C. General Manager/Director
- ☐ D. Micro Manager/Specialist/Coordinator
- ☐ E. Project Manager
- ☐ F. Art Director/Graphic Designer/Artist/Illustrator
- ☐ G. Manager/Supervisor (not listed above)
- ☐ H. Architect/Engineer
- ☐ I. Systems Analyst/Programmer
- ☐ J. Consultant/Advisor
- ☐ K. Scientist
- ☐ L. Educator
- ☐ M. Editor/Writer
- ☐ N. Professional (Doctor, Lawyer, etc.)
- ☐ O. Accountant
- ☐ P. Representative
- ☐ Z. Other (please specify) _____

3 Your department/function at this location (check one only):
- ☐ A. Engineering/Systems Engineering
- ☐ B. Research & Development
- ☐ C. Communications/Publishing/Public Relations
- ☐ D. Art/Creative Design
- ☐ E. MIS/DP/Information Systems
- ☐ F. Manufacturing/Operations/Production
- ☐ G. Sales/Marketing
- ☐ H. Administration/Management/Personnel
- ☐ I. Accounting/Finance
- ☐ J. Education/Training
- ☐ K. Science
- ☐ L. Consulting
- ☐ Z. Other (please specify) _____

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?
☐ Yes ☐ No
(Write in accurate quantity for all that apply)

		Currently Owned (Quantity)	Plan to Purchase (6-12 Months) (Quantity)
Macintosh IIcx/Macintosh IIx	1		
Macintosh IIci	2		
Macintosh II	3		
Macintosh SE/30	4		
Macintosh SE	5		
Macintosh Portable	6		
Macintosh Plus	7		
Macintosh (Other)	8		
IBM/Compatible Micro	9		
Workstation (e.g. Apollo, Sun)	10		

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year (answer one only):
- ☐ A. Retailer: sold per year _____ (specify quantity)
- ☐ B. Reseller: resold per year _____ (specify quantity)
- ☐ C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)
- ☐ D. Not Applicable

Required: Company name and company street address must be written below or applications cannot be processed. *Please print.*

First Name | Last Name
Title | Business Telephone
Company Name
Division | MS
Street Address (Where you work) P.O. boxes not accepted on this line.
City | State | Zip

Optional: Enter home address below ONLY IF YOUR COMPANY WILL NOT ACCEPT DELIVERY. (Company information is still required.)

Post Office Box or Street Address
City | State | Zip

6 Please check the Mainframe(s) or Minicomputer(s) at your location (check all that apply):
☐ 01. VAX ☐ 02. IBM ☐ 03. Other ☐ 09. None

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?
☐ Yes (If yes, please check all that apply) ☐ No

Computers
- ☐ 01. Macintoshes
- ☐ 02. Workstations
- ☐ 03. Minis, Mainframes

Connectivity
- ☐ 10. Local Area Networks
- ☐ 11. Modems
- ☐ 12. Micro/Mini/Mainframe Links
- ☐ 13. Communications Software

Peripheral Equipment
- ☐ 20. Laser Printers
- ☐ 21. Color Printers
- ☐ 22. Color Monitors
- ☐ 23. Hard Disks
- ☐ 24. Backup Systems
- ☐ 25. Plotter, Charting Devices
- ☐ 26. Scanners

Add-in Boards
- ☐ 40. Memory Boards
- ☐ 41. Graphic Boards
- ☐ 42. MS DOS Boards
- ☐ 43. Ethernet Boards

Software
- ☐ 50. CAD/CAM
- ☐ 51. Graphics
- ☐ 52. Desktop Publishing
- ☐ 53. Desktop Presentation
- ☐ 54. Database
- ☐ 55. Programming
- ☐ 56. Accounting, Payroll
- ☐ 57. Spreadsheets
- ☐ 58. Music
- ☐ 59. Project Management
- ☐ 60. Word Processing
- ☐ 61. Utilities

8 If you help purchase, specify, recommend or approve Macintosh Computers, software or peripherals, for how many MACs do you have this involvement over the course of one year?
- ☐ 01. 500 +
- ☐ 02. 100-499
- ☐ 03. 50-99
- ☐ 04. 20-49
- ☐ 05. 10-19
- ☐ 06. 4-9
- ☐ 07. 1-3
- ☐ 09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):
- ☐ 01. Local Area Network
- ☐ 02. Communicate with corporate workstations, mini or mainframe computers
- ☐ 03. Communicate with remote mini or mainframe computers
- ☐ 04. Communicate via modem
- ☐ 05. Voice/Data
- ☐ 09. Other (please specify) _____

10 Indicate how many employees there are in your entire company (check one only):
☐ 01. 1000 or more ☐ 02. 100-999 ☐ 03. Under 100

11 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

Name _____

Title _____ Dept _____

● Your Signature _____

Title _____ Date ____/____/____

PLEASE BE SURE THAT ALL QUESTIONS ARE ANSWERED.

FOLD HERE FOR MAILING DO NOT STAPLE—TAPE HERE

Place stamp here. Post Office will not deliver without postage.

MacWEEK

P.O. Box 5806
Cherry Hill, N.J. 08034-9641

FOLD HERE FOR MAILING DO NOT STAPLE—TAPE HERE

MacWEEK COMPARISONS • TRENDS • REVIEWS

ProductWatch

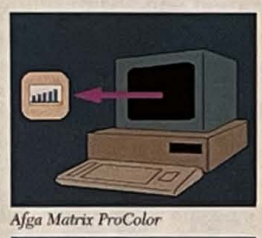
MacInTouch
Two new books on the Mac; new Switch-A-Roo fixes incompatibilities

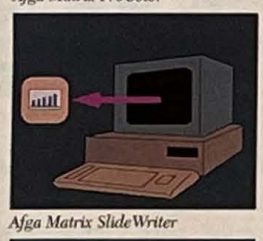
Reviews
EtherGate; In Brief: ParaFont 1.02, TypeAlign 1.0.2, Microsoft Office

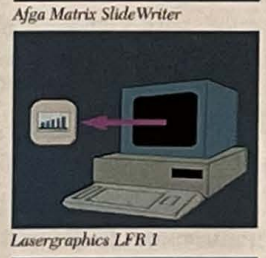
COMPARISONS

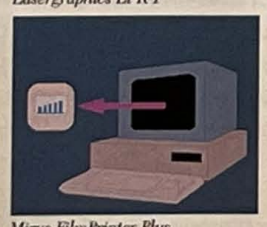
Desktop film recorders: A major step forward

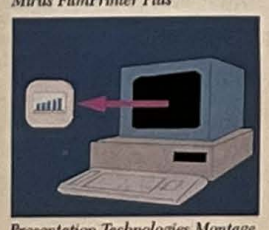
Agfa Matrix, Lasergraphics nearly match quality from service bureaus.


Afga Matrix ProColor


Afga Matrix SlideWriter


Lasergraphics LFR 1


Mirus FilmPrinter Plus


Presentation Technologies Montage

Output from each of the five film recorders reviewed is shown here. Note the subtle differences in color and resolution.

By Eric Benson

While conventional wisdom says the speed and output quality of 35mm desktop film recorders will never equal that of service bureaus, in practice the popularity of creating slide presentations on the Mac has encouraged manufacturers to advance the state of the art in this area. Here we take a look at five desktop film recorders representing the range available. Two of them provide quality nearly equal to that of service bureaus.

The desktop film recorder market has existed for almost 10 years but has failed to make an impact until now for two reasons. First, the relatively crude graphics created by early IBM PCs limited the potential creative and visual appeal of a presentation. Second, the ratio of price to performance was not attractive to corporations, which would have had to commit extensive resources to an immature technology. Service bureaus were a safer, although more expensive, choice. Only within the past six months has a PostScript film recorder been introduced, bringing with it the potential for truly stunning graphics on 35mm slides.

Agfa Matrix's SlideWriter and ProColor. Agfa Matrix has been in the film recorder business since the beginning, and the company has the largest selection of products. The ProColor ($6,495) is positioned as a desktop presentation tool and the SlideWriter ($11,795) as an entry-level professional machine. The SlideWriter is not really a desktop machine, since it stands over 3 feet tall on rolling casters, but it is in the same price range. Agfa is the only vendor to provide a hardware-based Adobe PostScript RIP (raster image processor) for its product line. The processor is $17,900.

A film recorder is basically a box with a high-resolution monochrome video tube at one end and a 35mm camera at the other end. In between are color filters that add color to the image displayed on the monitor. The key component in all film recorders is the tube, and all Agfa film recorders contain 7-inch high-resolution tubes.

Although overall tube dimension is instrumental for good definition, the size of each pixel on the screen is even more important for high-quality output. The SlideWriter has the best resolution, it uses a pixel half the size of the ProColor, and it provides superior clarity for all types of images. In fact, the SlideWriter has the best resolution of all the units reviewed here. The difference in pixel size between the SlideWriter and ProColor was clearly noticeable, especially with small type.

Both film recorders come with Pentax cameras and use high-quality color filters and lenses for controlling image color and focus. The cameras are standard 35mm models that require manual film loading and unloading. While this is not a difficult process, the other film recorders use motorized cameras, making film handling mostly automatic. Optional camera backs for the SlideWriter include a bulk-load film back for lengthy, unattended imaging sessions and a pin-register film back for multiple-exposure special-effects slides. The ProColor also can be outfitted with a Polaroid camera for quick proofs. Both units interface with the Mac via the SCSI port, so hardware setup is simple.

The Agfa film recorders have one major weakness: inconsistent color reproduction. In our test slides, the SlideWriter and the ProColor both produced uneven results on color transitions in graduated fills and backgrounds. The overall color saturation of each slide is excellent, though, with vibrant colors that project well even at long distances.

At press time Agfa Matrix announced a new version of its Conductor software that the company claims will improve the SlideWriter's and ProColor's color control capabilities and imaging speeds.

The Conductor software program shipped with the Agfa units is among the best available in either single-slide or batch-process modes. Each slide must be exported as a PICT file from your desktop publishing program before being added to a Conductor queue and imaged. Slides can be added to the queue one at a time or as multiple documents in a folder. Conductor then provides a well-organized and powerful environment for managing the queue. Among the many settings users can adjust are number of copies, resolution, text quality, color and output device. Conductor is especially valuable in high-volume, multirecorder operations. The program will even shut down your Macintosh when it's finished.

Agfa provides only 13 fonts with the Conductor software. This could be a severe limitation to some designers, but adding the ChromaScript PostScript RIP to the SlideWriter or ProColor lets you use any standard PostScript font.

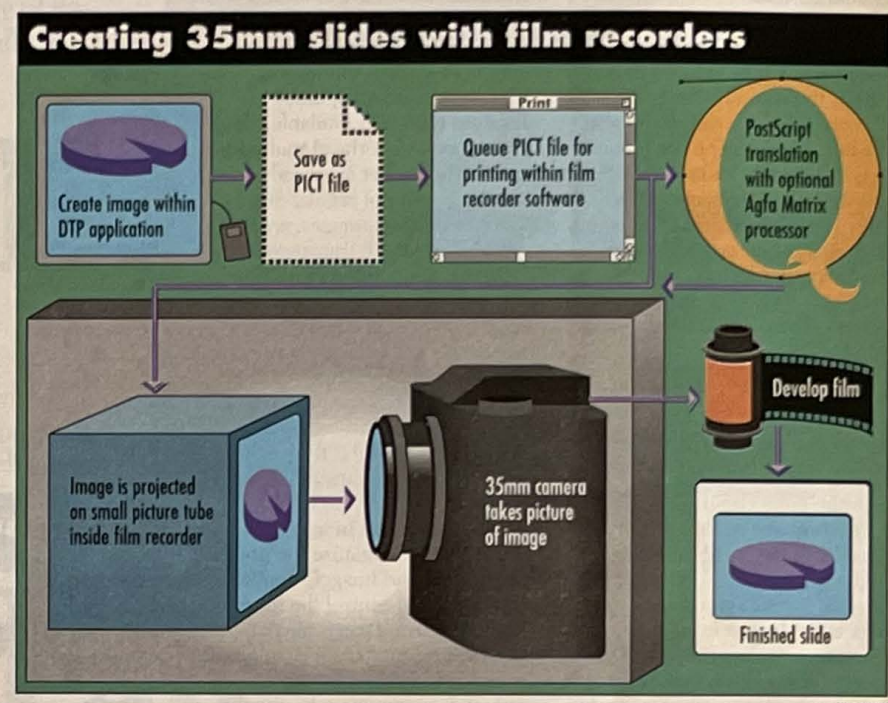
Lasergraphics' LFR 1. The LFR 1 from Lasergraphics Inc. is a versatile film recorder offering the second-best resolution and the fastest overall imaging speeds in our tests. These factors, combined with a recent price drop to $8,750, make the Lasergraphics unit an attractive choice for serious desktop presentations. The LFR 1 can produce slides at high resolution that, when projected, seem identical in quality to those produced at high-end service bureaus.

The LFR 1 is the largest of the four desktop film recorders we tested, measuring 25 inches long and 10 inches wide. It comes with a 6-inch high-resolution screen that has the same number of pixels as the SlideWriter, but a smaller pixel size capable of producing sharp graphics and text. Like the Agfa film recorders, the LFR 1 uses a Pentax camera, but it has a motor for easier film handling. The LFR 1 also can be fitted with a wide array of cameras, including two sizes of Polaroids and bulk-load and pin-registered 35mm and 4-by-5-inch transparencies. Purchased with all these optional cameras, the LFR 1 costs well over $25,000.

The LFR 1 is shipping with MacRascolQ 1.06 image-management software and 13 scalable fonts. Lasergraphics claims that MacRascolQ also "offers access to all Adobe Fonts." However, it does this only in tandem with Adobe Type Manager. Lasergraphics also claims that users can produce PostScript-quality graphics on the LFR 1 if they use a software-based PostScript interpreter such as Freedom of Press. We didn't have time to evaluate these options, but the possibilities are exciting.

MacRascolQ is easy to use and versatile, but comes in two parts, the MacRascolQ RIP and the MacRascolQ desk accessory. As with Agfa's Conductor, images must be saved in PICT format before being added to the print queue. The queue is created using the MacRascolQ DA, but this program doesn't provide any means of selecting multiple images at one time, making large print jobs a chore to set up. Settings such as image quality, fine character spacing and color balance can be adjusted globally or by individual slide. The LFR 1 is the only film recorder recommended for use with the Mac Plus, and Lasergraphics also has included

See Comparison, next page


Creating 35mm slides with film recorders
Create image within DTP application
Save as PICT file
Print
Queue PICT file for printing within film recorder software
PostScript translation with optional Agfa Matrix processor
Image is projected on small picture tube inside film recorder
35mm camera takes picture of image
Develop film
Finished slide
KEVIN BERGER

Comparison *From previous page*

image control features for users of black-and-white Macs. You can colorize any monochrome PICT file by assigning a color to a pattern and adding one of many canned background designs.

Presentation Technologies' Montage FR1. The Montage FR1 is the second fastest of the film recorders we tested and also the best-looking. The box it comes in is designed to make it easy to get this delicate instrument safely onto a desktop. Little things count, and once in place, the Montage simply plugs into an outlet and into your Mac's SCSI chain. External switches are provided to change SCSI addresses.

Presentation Technologies Inc. uses a 3-inch tube in the Montage FR1, giving the whole unit a footprint just slightly larger than that of a IIcx. While the Montage uses the same size pixels as the LFR, its image quality is fuzzy because of the small tube size. Slides made with the Montage FR1 have an overall softness, and fine details can be lost even at high resolution. Unless the size of the pixel is made smaller on Montage's 3-inch tube, the resolvable resolution will never equal that of the SlideWriter or the LFR 1. The color quality of the Montage is about average — good with graduated fills and backgrounds, but weak in saturation.

The Montage comes with a factory-installed motor-driven Pentax camera. A hinged cover protects the camera from harmful elements and serves as a noise suppressor when the camera is opening or closing the shutter and advancing film. An optional Polaroid camera is available, along with a pocket overhead transparency kit. The pocket overheads, smaller cousins of regular-sized overhead transparencies, are made with Polaroid 691 Transparency Film and miniature frames. They are then projected with an adapter enlargement lens that fits onto a standard-sized overhead projector. This kit could eliminate the need for 35mm projectors and darkened rooms in many presentations.

The ImageQ 2.0 software that came with the Montage FR1 is nearly identical to the LFR 1's MacRascolQ. The ImageQ DA is first used to organize the presentation, then the ImageQ application is used to control the imaging process. During our evaluation period, Presentation Technologies released ImageQ 3.0, which reduced imaging time by about 30 percent.

See Comparison, Page 46

In summary: Film recorders

We reviewed five film recorders that produce 35mm slides from Mac PICT images and found a wide range of quality, speed and price.

Quality is measured by high resolution in the finished slides. Larger picture tubes and smaller pixels yield better resolution, so it did not surprise us that Agfa Matrix's SlideWriter, with its 7-inch tube and small pixels, performed the best in this category. The fuzziest image, although adequate for casual presentations, was produced by the 2.76-inch tube of Mirus' FilmPrinter Plus. Closest to the SlideWriter in resolution was Lasergraphics' LFR 1, followed by Presentation Technologies Inc.'s Montage and Agfa Matrix's ProColor.

Imaging speed for a typical slide ranged from two to three minutes on the SlideWriter, Montage FR1 and Lasergraphics LFR 1 to about 12 minutes on the FilmPrinter Plus. Batch-processing software is provided by all the vendors — we consider it a prerequisite for making slides.

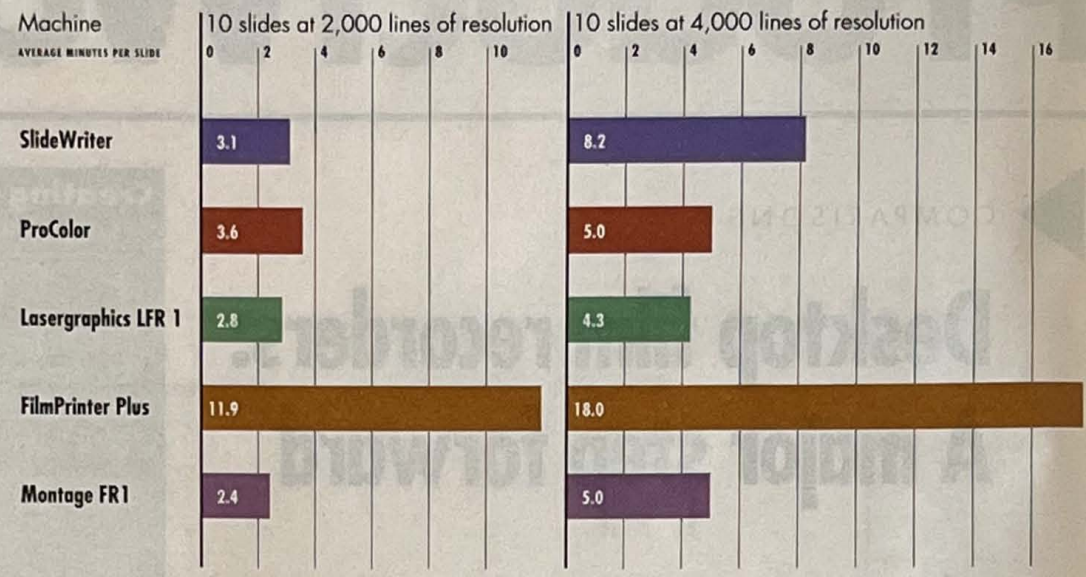
In general, you get what you pay for in this hardware category. The SlideWriter, tops in our resolution tests and no slouch in imaging speed, comes with the best batch-processing software of the bunch and can be used with Agfa Matrix's PostScript processor, making it the only film recorder able to image true PostScript slides. It also has a variety of optional camera backs for special purposes.

The Lasergraphics LFR 1 is the best value in terms of price and performance combined. It costs 30 percent less than the SlideWriter and its resolution is almost as good. The LFR 1 is also the fastest of the recorders we looked at, has very good software and has the widest variety of camera backs.

Presentation Technologies' Montage could be the choice for cost-conscious buyers. At half the cost of the SlideWriter, it offers good enough resolution for most presentations and is almost as fast overall as the Lasergraphics unit. It also has a unique pocket transparency kit that could eliminate the need for a 35mm projector in many situations.

Finally, the Mirus FilmPrinter Plus and Agfa Matrix's ProColor are at the low end of the spectrum in both price and quality of resolution. However, the ProColor has excellent batch-processing software, a choice of camera backs, and takes one-third the time to image a typical slide as the FilmPrinter does.

Film recorder printing speed comparison



Ten moderately complex slides were created in Persuasion 1.0 — four with text only, three graphs with graduated fills and one 3-D bar chart. All tests were run on a Mac IIcx with a 40-Mbyte hard disk, 5 Mbytes of RAM and 3 Mbytes of disk space.

MacInTouch

RIC FORD AND RICK LEPAGE

Quick looks at two new Mac books

BOOKS & RESOURCES

Hardware hacking. The original Mac design has had its share of hardware-related problems, including poor solder joints, inadequate cooling, and various analog board failures in the Mac 128K, 512K and Plus. Apple's idea of a wholly closed box had appeal, but it wasn't realistic given the lack of horsepower and other limitations inherent in those early machines. Those who remember the first internal hard drives and memory upgrades can recall the anxieties that came with them. If anything went wrong, you had no recourse but to trust your machine to your Apple dealer's service department, a crap shoot at best.

"Macintosh Repair and Upgrade Secrets," written by Larry Pina, published by Hayden Books and priced at $32.95, attempts to demystify the hardware of the "classic" Macs, offering an excellent primer on their repair and upkeep in the process. Pina walks through all the components of the Mac, from the logic board to the mouse, detailing methods for fine-tuning and fixing every part of the machines, from the earliest Mac 128K and long-lost XL (the "XLisa," or ex-Lisa) to the Mac SE. The instructions and illustrations are clear and to the point, and Pina's troubleshooting sections are very informative.

Messing around inside any computer is not child's play, but if you are interested in fixing up that Plus with the bad floppy drive or looking to keep maintenance costs lower, then Pina's book makes it as simple as possible. Included with the book is a disk containing a useful video testing application. We only wish that there were a companion volume for the Mac II line.

NEVIN BERGER

The whole Mac. We are not usually impressed with books that try to cover the whole Mac universe, but "Encyclopedia Macintosh," by Craig Danuloff and Deke McClelland, is an excellent attempt at distilling the Mac into 782 pages.

The book is full of tips, listings, and information about the inner workings of the Mac and its applications. The content is logically organized with a full index and plenty of illustrations. Perhaps the most surprising aspect of the book is that it doesn't seem to be a year out of date, as are many books of this type. Also to their credit, the authors include pages of listings for users groups, companies, bulletin boards and other resources. All this makes the book a valuable reference work.

"Encyclopedia Macintosh" is published by Sybex Inc. and priced at $24.95. A companion HyperCard stack that contains the entire text of the book is available through Heizer Software for $50, although we haven't had a chance to review it.

BUGS & TIPS

Switch-A-Roo fix. Bill Steinberg's freeware Switch-A-Roo is one of the more useful Fkeys we have installed in our system. We use it frequently to switch between one- and eight-bit color without having to go through the Monitors Control Panel device. Unfortunately, the most current revision, Version 1.4, doesn't support the Mac IIci or 24-bit color cards properly.

A new Switch-A-Roo now in beta testing, Version 1.6b5, fixes these problems. While he hopes to have Version 1.6 out soon, Steinberg will make the test version available to anyone who requests it by dropping him an electronic note on CompuServe (at 76703,1027) or on AppleLink (at X0542). Users who got Switch-A-Roo via Microseeds Publishing Inc.'s Screen Gems package can get the beta version directly from Microseeds.

REFERENCE

Hayden Books, Howard W. Sams & Co., 11711 N. College Ave., Suite 141, Carmel, Ind. 46032; (317) 573-2676; (800) 428-7267.

Heizer Software, 1941 Oak Park Blvd., Suite 30, P.O. Box 232019, Pleasant Hill, Calif. 94523; (415) 943-7667; (800) 888-7667.

Microseeds Publishing Inc., 7030-B W. Hillsborough Ave., Tampa, Fla. 33634; (813) 882-8635.

Sybex Inc., 2021 Challenger Drive, Suite 100, Alameda, Calif. 94501; (415) 523-2373; (800) 428-7267.

We welcome comments at MacWEEK, 4 Cambridge Center, Third Floor, Cambridge, Mass. 02142; (617) 497-2600; (617)497-2646 (fax). Electronic Mail: CompuServe: (Ric Ford) 75410,2612, (Rick LePage) 76117,1765; GEnie, America Online, Delphi, PAN: MACWEEKBOS; Connect: RICKLEPAGE, RICFORD; AppleLink: (address to "MacInTouch" in Subject): MACWEEK; Internet: MACWEEKBOSTON@MCIMAIL.COM; MCI Mail: MACWEEKBOSTON.

A DRIVE

Infinity Optical...

600MB rewritable cartridge with a 25-year warranty!

Need to store large amounts of data reliably, quickly and safely? Need to move it from computer to computer, city to city? Do you work with graphics, multimedia, databases, sound, scientific data or networks? If you answered yes to any of the above questions, buy an Infinity Optical. Fast, rewritable and economical, it's the best solution for your high-capacity storage needs.

IS A DRIVE,

Infinity 40 Turbo...

45MB removable cartridges are powerful and convenient

From Arctic research labs to Australian multimedia studios, PLI is providing infinite storage with 45MB removable cartridges for thousands of computer users. A 20ms access time and high reliability make it ideal as a primary drive, backup device, or means of data transfer and archiving.

IS A DRIVE...

PLI Turbo Drives...

200 and 250 MB 3.5" drives will unleash your Mac

New standards are being set for high-capacity hard drives, and PLI is setting them. Our 200 and 250MB drives boost your Mac storage capacity and offer a 3.5" form factor with a 100,000 hour MTBF. Like all PLI products, they're very fast, high-performance drives with long-term reliability and are surprisingly affordable.

OR IS IT?

FAST FAST FAST

PLI's fastest, just got faster...Introducing TurboBoost™ for Near Zero Access Times. This new, proprietary software delivers transfer rates up to 3 times faster than leading drives.

7 ADDED-VALUE SOFTWARE PACKAGES

PLI's TurboWare: ($436.00 value)
TurboCache...Ram-cache accelerator software
TurboOptimizer... Disk-optimization software for the Mac
TurboBack...A fast, icon-based, easy-to-use backup utility
TurboSpool...A quick spooler for laser printers
Universal Drive Utility
Customization, diagnostic, and partitioning software
The Best of BMUG
Great shareware chosen by a widely-respected user group
A.M.E. (a $279.00 value)
Casady and Greene's security program keeps your data safe!

QUALITY

Silent fans, durable, attractive construction, and pedestals for vertical mounting. PLI drives are built with the finest components, and undergo rigorous pre-ship testing.

WARRANTIES AND SUPPORT

All PLI drives include long warranties that are extendable for up to 4 years.

SUPPORTS

A/UX, DEC, MAC, MS/DOS,, & UNIX

Mac, Unix, DEC, A/UX and MS /DOS are trademarks or registered trademarks of their respective companies.

For a Dealer nearest you call...**800-288-8754**

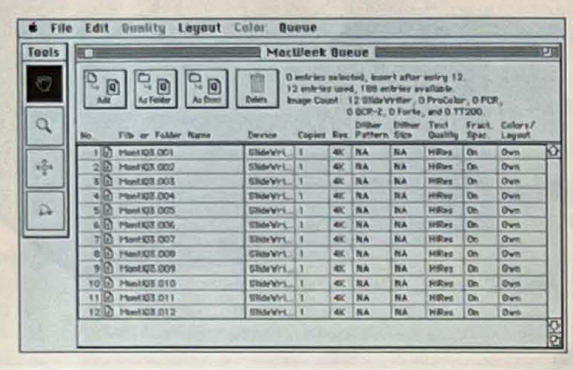
Peripheral Land Incorporated
47421 Bayside Parkway
Fremont, California 94538

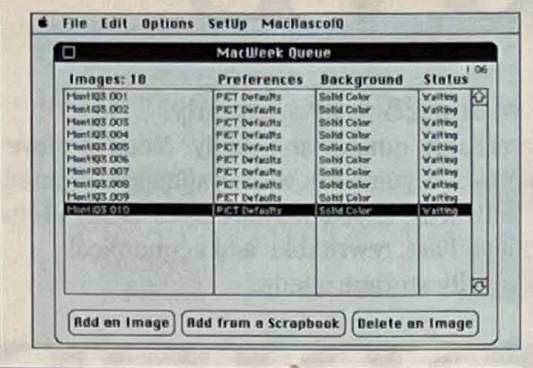
MWK AD-29

PLI

Agfa Matrix's Conductor batch-processing software (near right) is used by both the SlideWriter and ProColor. It can add all the slides in a folder to the queue at one time.

Lasergraphics' MacRascolQ software (far right) allows batch-processing setup from a DA but can only add one image to the queue at a time.


File Edit Quality Layout Color Queue
Tools
MacWeek Queue
Add
Add Folder
Add Dwgs
Delete
0 entries selected, insert after entry 12.
12 entries used, 188 entries available.
Image Count: 12 SlideWriter, 0 ProColor, 0 FCR, 0 DCR-2, 0 Forte, and 0 TT200.
No. File or Folder Name Device Copies Res. Dither Pattern Dither Size Text Quality Fract. Spac. Colors/ Layout
1 MacIQ3.001 SlideWri... 1 4K NA NA HiRes On Own
2 MacIQ3.002 SlideWri... 1 4K NA NA HiRes On Own
3 MacIQ3.003 SlideWri... 1 4K NA NA HiRes On Own
4 MacIQ3.004 SlideWri... 1 4K NA NA HiRes On Own
5 MacIQ3.005 SlideWri... 1 4K NA NA HiRes On Own
6 MacIQ3.006 SlideWri... 1 4K NA NA HiRes On Own
7 MacIQ3.007 SlideWri... 1 4K NA NA HiRes On Own
8 MacIQ3.008 SlideWri... 1 4K NA NA HiRes On Own
9 MacIQ3.009 SlideWri... 1 4K NA NA HiRes On Own
10 MacIQ3.010 SlideWri... 1 4K NA NA HiRes On Own
11 MacIQ3.011 SlideWri... 1 4K NA NA HiRes On Own
12 MacIQ3.012 SlideWri... 1 4K NA NA HiRes On Own


File Edit Options SetUp MacRascolQ
MacWeek Queue
Images: 10 Preferences Background Status
MacIQ3.001 PICT Defaults Solid Color Waiting
MacIQ3.002 PICT Defaults Solid Color Waiting
MacIQ3.003 PICT Defaults Solid Color Waiting
MacIQ3.004 PICT Defaults Solid Color Waiting
MacIQ3.005 PICT Defaults Solid Color Waiting
MacIQ3.006 PICT Defaults Solid Color Waiting
MacIQ3.007 PICT Defaults Solid Color Waiting
MacIQ3.008 PICT Defaults Solid Color Waiting
MacIQ3.009 PICT Defaults Solid Color Waiting
MacIQ3.010 PICT Defaults Solid Color Waiting
Add an Image
Add from a Scrapbook
Delete an Image

Comparison

From Page 44

Mirus FilmPrinter Plus. Mirus Corp.'s FilmPrinter Plus ($5,995) is the smallest and least expensive film recorder we evaluated. It's also the slowest. Our tests showed the FilmPrinter Plus to be as much as six times slower than the other film recorders tested. We'd only recommend it for environments in which slides can be imaged overnight or in which only a few slides need to be made at a time. The business of giving presentations is a time-sensitive one.

Mirus uses a 2.76-inch tube in the FilmPrinter Plus with a pixel size equal to that of the SlideWriter and LFR 1. In our tests, the FilmPrinter Plus' image sharpness was not as good as Montage's or ProColor's, though, and small type appears very fuzzy. Its overall color saturation and consistency was the best, especially with graduated fills and backgrounds.

The FilmPrinter Plus' software has the widest range of controls for color characteristics such as RGB (red, green, blue) levels, brightness and contrast. But waiting 15 minutes for one slide to image at high resolution is too high a price to pay for the results our tests showed.

Mirus uses a Konica camera. There are no levers or cranks to load and unload the film; instead, three buttons on top of the unit control automatic loading, rewinding and switching between a SCSI interface for the Macintosh and a parallel interface for IBM PCs and compatibles. While the other film recorders have optional PC hardware interfaces, Mirus is promising a low-cost software solution with its next upgrade. Mirus offers no optional cameras for the FilmPrinter Plus.

Since the FilmPrinter Plus' introduction, Mirus has provided a Chooser-level driver along with bare-bones batch-processing software. Mirus defends its emphasis on the Chooser driver as being a more Mac-like approach than batch processing. While this approach has its merits, there's a serious drawback: Your Macintosh is tied up while making slides. With the batch-oriented applications used by the other manufacturers, background imaging is possible, although slow.

The FilmPrinter Plus driver is accessed like any other Mac printer driver; the only difference is in the print options. Page Setup, for example, allows you to choose areas of various sizes for your slides. These different page sizes are designed for use with popular presentation software packages. For instance, PowerPoint users should select 8.88 by 5.91 inches and Persuasion users should choose the 10.13-by-6.75-inch page. Slide resolution and orientation also are selected from Page Setup. Once these options are set, simply issue the Print command from within your application, and a dialog box will appear with settings such as copies, page range, color quality, film type and automatic film rewind when done. The dialog box also tells you how many frames

Film recorder resolutions

	Tube size in inches	Pixel size in millimeters
SlideWriter	7.00	0.05
ProColor	7.00	0.10
Lasergraphics LFR 1	6.00	0.04
Montage FR1	3.00	0.05
FilmPrinter Plus	2.75	0.04

The larger the picture tube and smaller the pixels, the higher the output quality achieved. While all the units can output at either 2,000 or 4,000 lines of resolution, the larger tubes and smaller pixels yield sharper images.

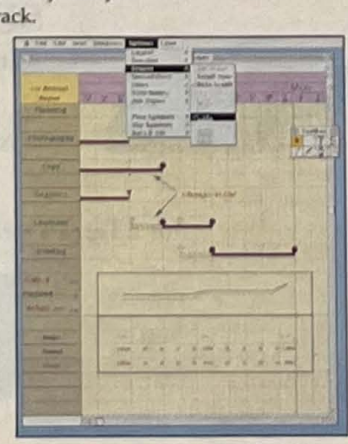
"My boss didn't understand, until he saw my schedule..."

Introducing MacSchedule 2.0

Plan projects, fast.
MacSchedule helps you create clear, graphic schedules... fast! Schedules that took hours to draw now take only minutes. Revisions that meant starting from scratch now take only a few seconds. MacSchedule automatically manages a calendar and provides tools to quickly generate project task bars. Scheduling becomes so easy that you'll do schedules to keep all your projects on track.

Include financial & resource data.
Integrated spreadsheet and graphing capability ties data to schedule tasks. Budget expenditures and graphically track results against plans. Include manpower requirements and project their trend.

Track status easily.
Status tracking is also a snap. Work progress, early and late starts and schedule slips are easily handled. Hierarchical organization links tasks on top level schedules to lower level schedules.



Track and display your project's progress and cost.

Flexible format and output.
Schedules can be quarterly, monthly, half-monthly, weekly, daily, hourly, quarter-hourly or custom. Days to go and elapsed time are also facilitated. Export the schedule to a desktop publishing program for proposals and reports. Modify the schedule or add graphics with a graphics program.

See the big picture.
MacSchedule is for the practical, top-down thinker who wants to see the entire picture and then make sure the job gets done. A direct approach, it's not complicated project management software. You'll create your first schedule minutes after opening the program.

Order MacSchedule.
Improve your workstyle and boost productivity. Let the boss see how good you really are. See your dealer or contact Mainstay.

Mainstay

5311B Derry Avenue
Agoura Hills, CA 91301
(818) 991-6540

71 rue des Atrebates
B-1040, Brussels, Belgium
322/733.97.91

MacSchedule is a trademark of Mainstay
Macintosh is a trademark of Apple Computer, Inc.

you have left on the current roll of film and will let you save a spool file for batch processing using MirusPrint. MirusPrint is weak compared to other batch-processing software, but it gets the job done.

Conclusions. Our overall impression of the Macintosh film recorder market is a good one. Many improvements have been made, and with PostScript capabilities being introduced, the future is bright. There are a variety of options to choose from and a similar range of prices. Our pick of the litter is the Lasergraphics LFR 1. It can produce great-looking slides in a minimal amount of time and has the widest choice of camera backs, making it extremely versatile for any style of presentation. At $8,750 list, the unit is not cheap, but even moderate slide users should see a quick payoff. The SlideWriter produces the sharpest images but costs about 30 percent more. We'd recommend it for service bureaus and large corporations because of the available PostScript processor and production-oriented Conductor software.

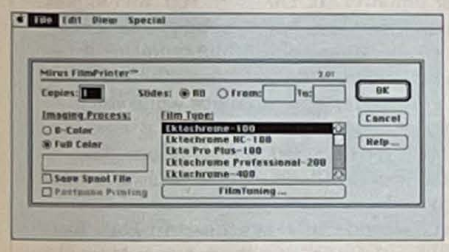
If price is an issue, the Montage will do just fine for casual slide presentations. Although it rated third in our evaluation, the deficiencies in sharpness and color may go mostly unnoticed once a slide is projected. The Montage costs almost $2,000 less than the LFR 1 and $5,000 less than the SlideWriter.

The two least expensive recorders, Mirus' FilmPrinter Plus and Agfa Matrix's ProColor, both need work. The FilmPrinter Plus desperately needs improvement in speed and resolution quality as well as better batch-processing software. The ProColor needs color enhancements to help with its banding problem on graduated backgrounds. □

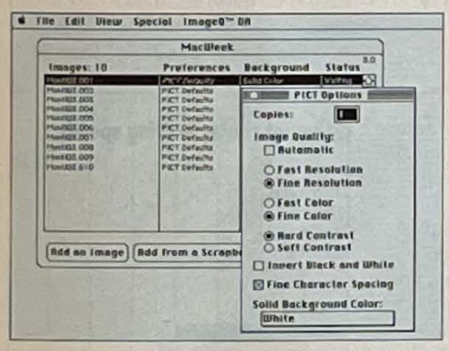
MacWEEK film recorder ratings

Rated on a scale from 1 to 5 5=Superior, 1=Below average	Agfa Matrix SlideWriter	Agfa Matrix ProColor	Lasergraphics LFR 1	Mirus FilmPrinter Plus	Presentation Technologies Montage FR1
Image quality*	★★★★★	★★	★★★★	★	★★★
Speed	★★★	★★★★	★★★★★	★	★★★★
Color	★★	★	★★★★	★★★★★	★★★
Software**	★★★★★	★★★★★	★★★	★★	★★★★
Options	★★★	★★	★★★★★	★	★★★

*As seen through a 10x loupe. **SlideWriter and ProColor use same software. All tests run on Mac IIcx with a 40-Mbyte hard drive, 5 Mbytes of RAM and 3 Mbytes of disk space.



The Mirus FilmPrinter Plus is the only film recorder reviewed that uses a Chooser-level driver for imaging. It is easy to use and offers unique page-size options, but it ties up the Macintosh during processing.



The Montage ImageQ 2.0 batch software, a relative of Lasergraphics' MacRascalQ, offers additional options, such as the capability to invert black and white in an image.

Product Info

AGFA MATRIX
SlideWriter: $11,795;
ProColor: $6,495;
PostScript RIP: $17,900
1 Ramland Road, Orangeburg, N.Y. 10962;
(914) 365-0190

LASERGRAPHICS INC.
LFR 1: $8,750
17671 Cowan Ave., Irvine, Calif. 92714;
(714) 660-9497

PRESENTATION TECHNOLOGIES INC.
Montage FR1: $6,995
743 N. Pastoria Ave., Sunnyvale, Calif. 94086;
(408) 749-1959

MIRUS CORP.
FilmPrinter Plus: $5,995
4301 Great America Parkway, Santa Clara, Calif. 95054; (408) 980-9770

EYESORE VS. EYE PROTECTION

As today's monitors get bigger and brighter, anti-glare filters become less of an option and more of a necessity.

The right filter can combat eye fatigue, help eliminate headaches, even reduce overall body stress.

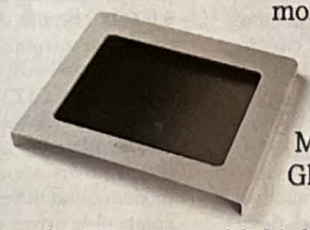
Yet, the irony is that something so good for your eyes can be such an eyesore.

In fact, most filters look like they belong to someone else's system.

The fit is sloppy. The colors don't match. The materials are different.

Kensington has a different idea.

Instead of making a filter that will fit on any monitor, we make filters that will only fit a *specific* monitor.



An example is our Maccessories® SE Anti-Glare Filter.

It looks so much a part of the SE, you would think it was designed by the same people who designed the SE.

The styling is complimentary. The color identical. Even the same material is used.

And unlike generic filters, the fit is perfect. So light passes through the filter, never around it.

Kensington uses only optical quality glass with a ceramic anti-reflection and scratch-resistant coating.

The result is a 96% reduction in glare. And an improvement in contrast and clarity of up to 20 times.

In short, the most advanced eye-protection system you can find today–it even filters out VLF and ELF radiation and dissipates static.

Kensington has custom designed screens for the Mac, Mac Plus, Mac SE, Apple IIGS, as well as for the entire Mac II family of large screen monitors.

For a free brochure, and the dealer nearest you, call 800-535-4242. In New York call 212-475-5200.

KENSINGTON

Maccessories, Kensington and the Kensington logo are registered trademarks of Kensington Microware Ltd. Apple and Macintosh are registered trademarks of Apple Computer, Inc. © 1990 Kensington Microware Ltd.

REVIEWS

EtherGate good choice if TCP/IP not needed

EtherGate

Shiva Corp.
List price: $2,399

+ Good package of features for business EtherTalk use; easy to set up and use; good performance; excellent technical support.

− Slightly overpriced.

By Dan Magorian

As their Macintosh networks grow, companies are increasingly turning to Ethernet as an alternative to LocalTalk because of its superior speed and reliability. Previously popular mostly with universities and research institutions, falling prices and easy connectivity via EtherTalk have made Mac Ethernet a commercial success. But while zoning a large network into several smaller areas via Ethernet routers can improve performance significantly, network management is no longer simple; there are several ways to make use of Ethernet in a Mac environment. This is where Shiva Corp.'s new EtherGate comes in.

Connecting Ethernet to LocalTalk. Existing solutions fall into two categories: hardware routers that are dedicated to moving packets between Ethernet and LocalTalk and software routers that allow Macs with Ethernet cards to function as routers in the background while still being used as workstations in the foreground.

The hardware solutions have been available for several years and often are used in large networks combining Ethernet and LocalTalk for access to shared file servers and outside communications gateways. The two existing hardware solutions, Kinetics Inc.'s FastPath and Cayman Systems Inc.'s GatorBox, do more than just route AppleTalk packets between LocalTalk and Ethernet. They also encapsulate Internet Protocol (IP) packets within AppleTalk and vice versa, so that standard Transmission Control Protocol (TCP) applications such as Telnet may operate from LocalTalk-attached Macs. (The combination of these two networking protocols is known as TCP/IP.)

This is a very important capability in large university and corporate networks but of little use to small companies that don't need to access larger computers running TCP/IP. Until recently, if businesses wanted to use Ethernet, they had to pay for the expense and complexity of TCP/IP capability to get basic Ethernet-LocalTalk routing.

Since last year, they also could go with one of the inexpensive software routers available, such as Apple's Internet Router or Infosphere Inc.'s Liaison. Surprisingly, background software routers can yield the same or better performance than their dedicated hardware cousins (see chart). Software routers work well when they are primarily used as connections to distributed printers and other light-duty activities that do not take a great toll on foreground workstation use. Universities and research institutions often equip all workstations with Ethernet cards as a matter of course; background routers work well there and offer a great savings. On the other hand, many companies are connected mainly via LocalTalk and shudder at the prospect of users losing access to network services because the Mac running the router crashed or was turned off. Actually, this problem can be prevented by using multiple software routers on different machines in parallel as backups to each other, but router Macs still can get sluggish under heavy file-service loads.

The chart at right shows performance benchmarks doing "pure" reads and writes (no Finder-related activity) over the two hardware and two software routers under ideal conditions: one Mac IIx server and one Mac II client on their own network. The performance improvement with increasing block size shows the effects of packet size on Ethernet; the maximum would be at 1.5 Kbytes. Note that the effects of other network traffic and foreground activity on the software routers are not taken into account in this measurement. These factors will slow down throughput by varying amounts, depending on the activity of the moment.

EtherGate's configuration utility is visually clear and easy to use. The unit comes preconfigured for simple connections; only changes need to be downloaded.

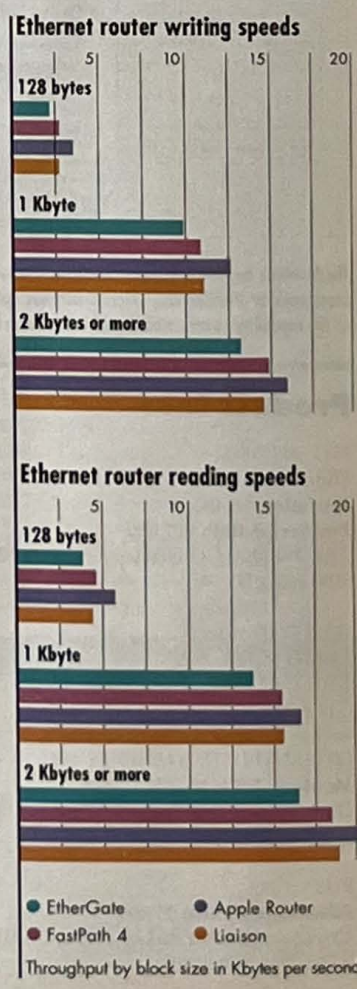
An in-between solution. EtherGate steps into the gap between expensive hardware that has too much functionality and complexity for some businesses and inexpensive software that lacks the reliability of dedicated hardware routers. This attractive new package provides the set of functions most likely to be found on network managers' wish lists: routing from Ethernet to one or two LocalTalk networks; routing to a remote LocalTalk network via modems; dial-in access; and serial device sharing. Thus, one box not only connects Ethernet to LocalTalk but also networks a modem for dialing in and out.

Considering its multiple functions, EtherGate is quite easy to get up and running. The software has four parts: a Manager application that configures EtherGate as well as other Shiva network devices; a Control Panel device for setting the serial port emulation and dialing out; a Network device for configuration and dialing in; and a Chooser document for using shared serial devices. While this arrangement is not difficult to use, we think a more elegant solution would be to consolidate these functions into two parts — the Manager application and a Chooser document similar to Liaison's.

Overall, EtherGate automatically configures itself for basic routing when it is powered up, and it was easier to set up than any other router we've tested. The actual gateway code comes preloaded into battery-backed memory and only updates need to be downloaded. The FastPath and GatorBox units require the entire configuration code to be downloaded. The Manager application has an interesting Font/DA Mover-style interface with two views of your network that makes assigning network numbers to zones easy.

The configurations of dial-in and dial-out services must be set manually. Many types of modems are supported, including the most popular 9,600-bps brands. Because of the confusion surrounding high-speed modem standards, companies should buy CCITT V.32-compliant modems unless they will connect only to others of the same brand. We tested EtherGate with 2,400-bps modems, and the generic Hayes-compatible driver worked fine. Remote services such as printing and file transfer via TOPS performed as expected, except it operated at a snail's pace. For example,

See EtherGate, Page 50



Reviews in Brief: PARAFONT • TYPEALIGN • MICROSOFT OFFICE CD-ROM

ParaFont 1.02

Design Science Inc.'s ParaFont is a utility for customizing any existing laser font. You can modify an entire typeface or a single character at a time, adding fractions, symbols, logos, small caps, old-style numerals (with ascenders and descenders), proportionally spaced numerals or new ligatures (ff, ffi and ffl).

You also can perform global modifications, such as changing horizontal or vertical scaling and spacing to produce compressed or elongated fonts, altering the slant angle for generating pseudo-italics, modifying the stroke thickness of outline fonts, and changing the weight and positioning of underlines. You also can use ParaFont to simply move characters between two or more typefaces.

ParaFont works with any laser fonts available to your printer, even encrypted Type 1 PostScript fonts such as those from Adobe Systems Inc. It produces unencrypted Type 3 fonts, but the base font from which the custom font was derived must remain present, so ParaFont doesn't really provide a way to unencrypt Type 1 fonts.

Also, ParaFont-generated typefaces won't be enhanced by Adobe Type Manager (since they're not Type 1 fonts), but having ATM active during the creation of bit-mapped fonts allows ParaFont to compose superior screen fonts in any point size — a boon for users of non-PostScript printers.

ParaFont works smoothly, reliably and quickly, always delivering on its claims — the fonts it generates are superb. We found its handling of fractions particularly impressive, providing not only slashed and stacked styles of commonly used fractions but also the capacity to build fractions piece by piece from its numerical components.

Font purists may recoil at the thought of mutating carefully designed and crafted typefaces, "corrupting" their original nature along the lines of Ted Turner's colorization of classic films. But the fact remains that ParaFont can expand the range of laser fonts at a reasonable cost and even produce custom typefaces that aren't commercially available. ParaFont 1.02 retails for $99.

Design Science Inc. is located at 6475-B E. Pacific Coast Highway, Suite 392, Long Beach, Calif. 90803; (213) 433-0685. — *By Dennis Klatzkin*

TypeAlign 1.0.2

Emerald City Software Inc.'s TypeAlign is a desk accessory solely intended for use with Adobe Type Manager from Adobe Systems Inc. (see MacWEEK, Dec. 5, 1989). It lets you bind text to slanted lines, curves or arbitrary paths and apply a few basic effects: gray fills, eight-bit colors, manual kerning and simple graphic distortions. And because it works hand in hand with ATM, TypeAlign produces a nearly instantaneous screen preview that approaches real WYSIWYG.

The program can print to any output device supported by ATM, and like ATM, TypeAlign only works with Type 1 PostScript fonts, not Type 3 faces.

TypeAlign's text effects can be exported as PICT, Adobe Illustrator 88 or Encapsulated PostScript files, or copied to the Clipboard and pasted into any application that supports PICT images. You can't import pictures into TypeAlign, but it contains a clever camera tool for generating a grayed-out template of any drawing in the window directly beneath the DA, so you have a visual frame of reference while you're slanting or curving text.

TypeAlign is not intended to replace more full-featured text manipulation programs such as Broderbund Software Inc.'s TypeStyler, Letraset's LetraStudio and Emerald City's own SmartArt DAs. TypeAlign's authors chose to keep the program focused on a few useful features, and the program accomplishes them beautifully. TypeAlign 1.0.2 retails for $99.95.

Emerald City Software Inc. is located at 1890 Shoreline Blvd., First Floor, Mountain View, Calif. 94043; (415) 324-8080; (800) 223-0417. — *By Dennis Klatzkin*

See Reviews in Brief, Page 50

IBM Data Via AppleTalk

NetAxcess™ is the gateway that connects AS/400s and System/3Xs to AppleTalk Macintoshes.
Just plug the NetAxcess card into any Macintosh II, slip in NetAxcess software, and you're ready to integrate IBM data on any Macintosh on your network.

NetAxcess installs in minutes, and because it runs in the background, your Macintosh is free for other uses.

NetAxcess benefits include:

- use of your existing LocalTalk, EtherTalk and TokenTalk cabling
- HyperCard interface allows transparent database access
- simple file transfer access to your host's mass storage capabilities
- terminal and printer emulations
- direct Twinax attachment

Call us now at:
(800) 531-5167
In Europe, (44-1) 844 1525

ANDREW
KMW Systems

NetAccess is a trademark of KMW Systems Corporation. All other brands are trademarks or registered trademarks of their respective holders.
©1990 KMW Systems Corp. FAX: (512) 338-3199 Telex: 28-6532 AppleLink: D5111

Reviews in Brief

From Page 48

Microsoft Office CD-ROM

In the CD-ROM market, Microsoft Corp. has finally put a product where its mouth has long been. In addition to the four core business applications Microsoft has deemed crucial to the modern office (Word, Excel, PowerPoint and Mail), the Microsoft Office CD-ROM provides a host of ancillary support, primarily from third parties, possible only with CD-ROM disc technology.

The complete documentation for the four applications is provided in a HyperCard stack format significantly enhanced with the use of Xyphias' search engine technology. This means users can search for the occurrence of virtually any word found in the printed manuals in a fraction of the time it would take to refer to them by hand. As shipped, the package does not include the printed documentation. Managers who do not already have a storeroom full of unopened documentation can redeem the enclosed coupon plus $15 for a complete set.

One of the main attractions of the CD-ROM format for network administrators is its capability to be easily upgraded. One networked disc can now suffice to upgrade an entire company's software and documentation, provided each copy is properly licensed from Microsoft.

More than 40 Mbytes of support information in the form of samples, demos and even full products also is provided. These include sample Excel templates from Heizer Software, the entire Adobe screen font library, and Microlytics Inc.'s WordFinder thesauri in American and British English, French, German, and Spanish.

The interactive training materials are some of the best implementations of the concept we have seen, although some of them will not execute on a black-and-white display.

This product proves that CD-ROM is not simply a niche product but also has a place in the modern corporate work place. Considering the wealth of material provided, the $949 price makes it a "no-brainer" purchase for any manager responsible for an office standardized on Word and Excel. If the same office also uses PowerPoint and Mail, so much the better.

Microsoft Corp. is located at 16011 N.E. 35th Way, Redmond, Wash. 98073; (206) 882-8080. — *By Dale Coleman*

No Masquerade.

Ever wonder how some recruiters always unmask the most qualified computer talent in Fortune 1000, government and technical sites?

The CAREER OPPORTUNITIES NETWORK uncovers the best talent for them. It's a network of four computer newspapers—each recognized by computer professionals as the #1 information source in its field.

PC WEEK takes their recuiting message to 195,000 qualified computer-involved prospects with micro, mini, mainframe and networking experience. Consider passalong readers and the number jumps to 780,000.

MACWEEK, the only weekly of its type, attracts 70,000 Macintosh specialists. And passalong readership pushes the number to over 300,000.

DIGITAL REVIEW reaches 80,000 DEC-users on 94% of all VAX sites and many PDP sites.

GOVERNMENT COMPUTER NEWS delivers 80,000 computer professionals on federal, state and local government sites (more than any government publication). And passalong readership makes it 376,000 prospects.

If you'd like to bring more high-calibre professionals out of hiding, call the CAREER OPPORTUNITIES NETWORK today at **212-503-5162** or **800-288-HIRE.** It's time you discovered who they are.

CAREER OPPORTUNITIES

MacWEEK · PC WEEK · DIGITAL REVIEW · GOVERNMENT COMPUTER NEWS

EtherGate

From Page 48

opening a large folder took several minutes. For reasonable performance, Shiva recommends 9,600 bps, and it's definitely needed. There was a problem with "seeing" AppleShare servers on dial-in, but this was solved with an update of the download code after calls to technical support.

We found Shiva's technical support to be excellent. Personnel are easy to reach and knowledgeable. They return calls promptly, speedily send out updates, and in general seem to care. You shouldn't need to call too often, since EtherGate's documentation is clear and concise (although it lacks an index and a table of contents). On-line help is provided but isn't very helpful because it often provides information in the wrong context.

Overall, features such as access privileges were easy to set up and worked as expected. The shared serial device option also seemed to function well, although we tested it only with a modem. EtherGate also provides for remote routing to another EtherGate or TeleBridge. This allows the EtherGate to use high-speed synchronous, as well as dial-up, lines to connect corporate networks (for example, with 56-Kbps leased lines). Using this feature, growing all-Mac companies could conceivably form their own national AppleTalk networks at a fraction of what such connectivity used to cost.

Conclusions. For many networks, Infosphere's Liaison background router provides comparable routing and dial-in services for $295, plus $250 to $550 for an Ethernet card. But, as mentioned before, background routers are probably not appropriate for LocalTalk-based networks with heavy traffic.

For companies that need a dedicated hardware router and shared devices (but don't need access to TCP/IP services), EtherGate provides the most desirable networking features at a competitive price. Its extra functionality and somewhat lower price compared with other hardware Ethernet routers make it attractive. We found EtherGate to be easy to use, with good performance and excellent technical support.

Shiva Corp. is located at 155 Second St., Cambridge, Mass. 02141; (617) 864-8500. □

Dan Magorian is a microcomputer specialist for the Computer Science Center at the University of Maryland at College Park.

Related MacWEEK reviews

Adaptec Nodem: 10/17/89
Compatible Systems' Ether+: 10/17/89
Infosphere's Liaison 1.01: 2/7/89
Shiva TeleBridge: 6/20/89
Shiva NetBridge: 11/29/89

Tired of waiting?

Do copies of MacWEEK disappear in your office? Are they tattered and torn by the time they're routed to your in box? Beat the system and avoid the three- to six-month qualified subscription waiting list* by ordering a paid subscription today.

For your own copy of MacWEEK, delivered to your home or business address, send $75 per year (U.S.) check or money order to:

MacWEEK
c/o Business Fulfillment Group
Post Office Box 5821
Cherry Hill, NJ 08034

Please allow 4-6 weeks for your order to be processed.

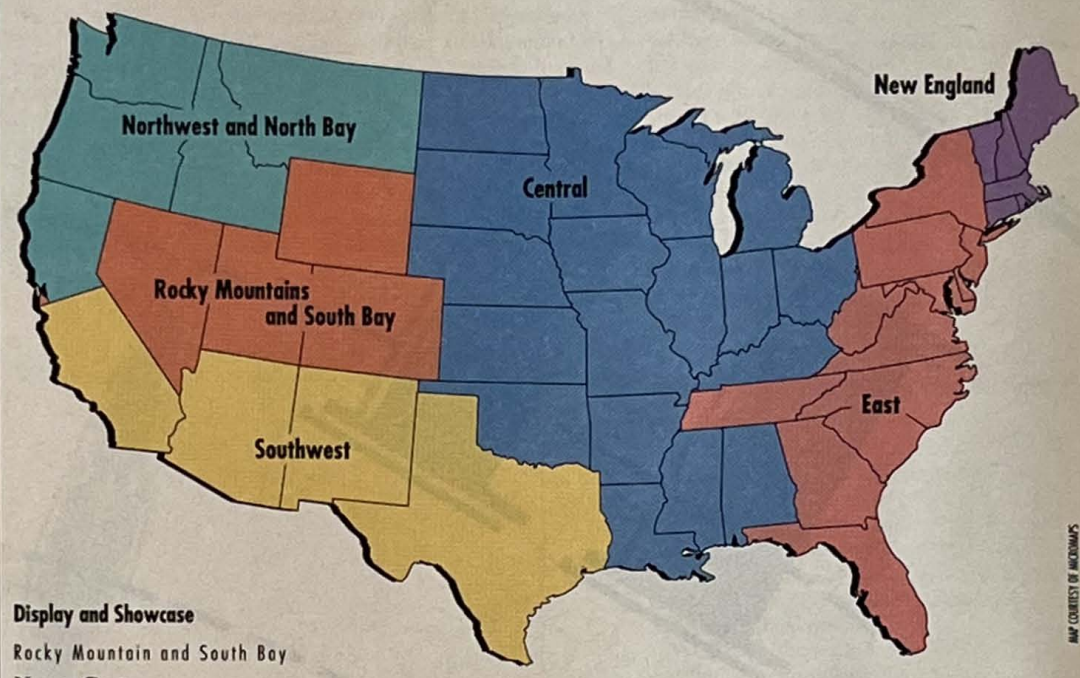
International (airmail) subscriptions are $300 U.S. per year. All orders must be prepaid.

*If your application for a qualified subscription is accepted during the course of your paid subscription, notify MacWEEK and you will receive a pro-rated refund.

Coming up in MacWEEK

Cover date		Ad close
Mar. 6	GA, E-mail	Feb. 23
Mar. 13	CAD	Mar. 2
Mar. 20	MacWEEK 200, Printers	Mar. 9
Mar. 27	GA	Mar. 16
Apr. 3	NeXT, Modems	Mar. 23
Apr. 10	Storage Supplement	Mar. 30
Apr. 17	Expansion boards	Apr. 6
Apr. 24	GA	Apr. 13
May 1	Databases	Apr. 20

MacWEEK sales offices



SAMMONS DU COURTESY OF MACWEEK

Display and Showcase

Rocky Mountain and South Bay

Nancy Carter
Western Ad Manager
(415) 243-3590

Elizabeth Massengill
Account Executive
(415) 243-3542

San Francisco

Carla Daiss
Regional Sales Manager
(415) 243-3545

Elizabeth Massengill
Account Executive
(415) 243-3542

Northwest and North Bay

Jeff Cohen
Regional Sales Manager
(415) 243-3511

Southwest

Michael Lamattina
Regional Sales Manager
(213) 387-2100

Deborah Tarantino
Account Executive
(415) 243-3535

Central

Kathy Kottenbach
Regional Sales Manager
(312) 346-2600

Jo-Ann Sturtridge
Account Executive
(415) 243-3575

New England

Jane Fitzwilliam
Regional Sales Manager
(617) 497-2641

Jo-Ann Sturtridge
Account Executive
(415) 243-3575

East

Michele Lipstein
Regional Sales Manager
(212) 503-4432

Christina Dupre
Account Executive
(415) 243-3525

Career Opportunities
(800) 288-HIRE

Paul Forsey
National Accounts Manager
(212) 503-5173

Steve Russell
District Sales Representative
(212) 503-5162

James O'Keefe
Account Manager
(212) 503-5163

Classified
(800) 825-4ADS

Mary Jo Nash
Account Representative
(212) 503-5122

Amy C. Loucks
Account Representative
(212) 503-5131

Annamarie de la Cruz
Account Representative
(212) 503-5865

Advertiser index

Abaton	39	Computer Factory	8	GE Rental/Lease	56	Mainstay	46	PLI	45
Adobe Systems	30, 31	Computer Friends	57	GTCO Corp.	56	Mass Microsystems	15	Rodime	66
Altsys Corp.	42	Corel Systems	56	IDC	24, 25	Media Clip-Art	57	Shiva	72
Asante	53	Data Translation	19	Kensington Microware	47	MicroFrontier	9	Silicon Graphics	36, 37
Beagle Brothers	54	DayStar Digital	2	KMW	49	MicroNet Technology	11	Software That Fits	55
Blueridge	57	DCA	4, 5	LaserMax	34	Microtek Labs	18	Solutions Inc.	56
Cal Comp	16, 17	DEFT	9	Letraset	32, 33, 35	NEC	12, 13	Synergy	56
Casady & Greene, Inc.	14	Direct Action	56	Locker	22	Newer Technology	14	TechnologyWorks	21
CE Software	23	DPI	20	MacTel	55	Nutmeg Systems	70	Tree Star	57
Computer Age	55	Farallon	71	MacWAREHOUSE	27	Oracle	7	Varityper	28
Computer Associates	40, 41	Fifth Generation	10	Magnum Software	57	Percon	57		

Bet you 32 bits you can't find a faster LAN for Macs.®

But speed is just one way we outperform the competition.

First, we offer *fast response.* Our Mac II and SE/30 cards use the full 32-bit bandwidth. Giving you high performance, even with heavy network traffic.

Asanté LAN cards also give you the ultimate in *hardware compatibility.* They're the *only* cards that give you register-level compatibility with EtherTalk—so you know your Mac software will always run.

Plus our networking cards keep on *working.* The lowest chip-count designs on the market, they give you unprecedented reliability. Combined with Asanté's unique diagnostic LEDs, for quick problem isolation. Our cards are additionally backed by a 1-year warranty and full technical support.

And with Asanté, you get *hassle-free* Mac networking, from a single, high-quality vendor. We have LAN solutions for every Mac—no matter what model it is. We support all popular LAN standards, including 10BASE-T twisted pair Ethernet and Token Ring.

To "Macs" out your performance, get an Asanté LAN card today. For information, write Asanté Technologies, Inc., 405 Tasman Avenue, Sunnyvale, CA 94088. Or call (800) 662-9686.

ASANTÉ

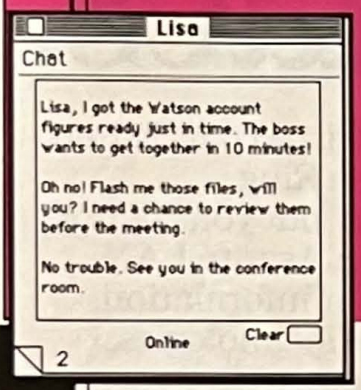
NETWORKING POWER.

Resellers, Asanté Products Are Distributed By MacAmerica and Ingram Micro D.
All trademarks belong to their respective companies.

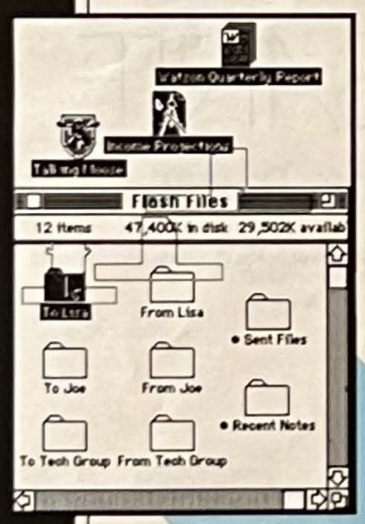
Send Files over AppleTalk —*in a Flash!*

Flash is the fastest, friendliest file transfer program you can buy for the Macintosh. Unleash the power® of your AppleTalk network with Flash.

Quickly send files and messages to any other Macintosh—or group of Macintoshes—on the network. Flash even has a chat mode that lets you talk in real-time to anyone else.


Lisa
Chat
Lisa, I got the Watson account figures ready just in time. The boss wants to get together in 10 minutes!
Oh no! Flash me those files, will you? I need a chance to review them before the meeting.
No trouble. See you in the conference room.
Online
Clear
2

Both people type into the same note pad when chatting.



To send files to a person or group, just drop them in a folder.

Flash is Fast

- To send a file, just drop it into a Flash folder and off it goes!
- All file transfers are done in the background, so you never have to wait. Flash works while you do.
- Flash's transfer rate is almost 1MB per minute. Most files are sent in seconds.

Flash is Powerful

- Flash can send and receive any combination of files and folders at the same time.
- The contents of an entire hard drive can be transferred—while you use both computers!
- Flash can communicate across any AppleTalk network zones that also have Flash installed.

Flash is Friendly

- Flash is perfectly integrated into the Macintosh desktop environment.
- Installation is so easy you'll be *using* Flash in minutes—not just reading about it!
- You can use Flash anytime, from inside any application.
- Flash tells you when your files arrive, so there's no need to keep checking. But, in case you forget, Flash keeps a record of all file transfers.

Software Requirements

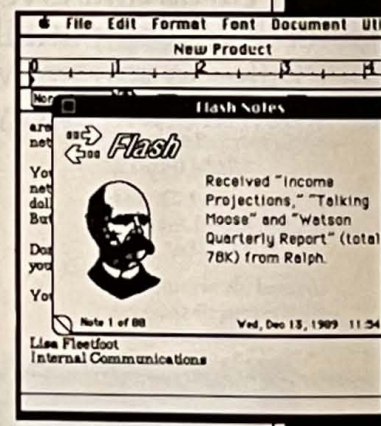
- All Macintoshes on the network must be running System 6.0 or newer.

Hardware You Need

- An AppleTalk compatible network.
- Two or more Macintoshes with a minimum of 1MB of memory.

Hardware You Don't Need

- Hard drives not required—Flash works fine on all floppy-based Macintoshes.
- Dedicated File Server not required—Flash will save you thousands of dollars by keeping all of your Macintoshes free for productive uses.


File Edit Format Font Document Uti
New Product
Flash Notes
Flash
Received "Income Projections," "Talking Moose" and "Watson Quarterly Report" (total 78K) from Ralph.
Note 1 of 88
Wed, Dec 13, 1989 11:54
Lisa Fleetfoot
Internal Communications

Flash tells you when your files arrive.

Only $199.95!

You can use Flash with any number of Macintoshes in a single AppleTalk network zone. And, you can add as many Macintoshes as you need to each zone *at no extra cost*. You are not required to purchase more than one Flash program disk unless you use Flash in more than one zone. Flash can communicate with any other network zones also using Flash.

FLASH™

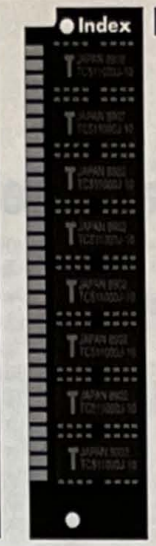
Flash is now shipping! Buy it at your local dealer.

Or, order directly from Beagle Bros. Call (800) 345-1750. In California, call (800) 992-4022.

Beagle Bros, Inc. • 6215 Ferris Square, Suite 100 • San Diego, CA 92121 • (619) 452-5500

Flash is a trademark of Beagle Bros Inc. Unleash the Power is a registered trademark of Beagle Bros Inc. Macintosh and AppleTalk are trademarks of Apple Computer Inc.

MacTel
Technology Corp.



INDEX SIMMs

$69

1Mb Surface Mount, Low Profile

- 80ns / 70ns
- Gold Contacts and Traces
- Lifetime Warranty

DIP SIMMs available on request

4Mb Surface Mount • 80ns • $599

"Prices subject to change without notice"

Quantum 3.5" ProDrive HD with 12 ms! (w/ Activated Cache)

Capacity (Mb)	Internal: cx,ci,II,IIx,SE,SE30	External
105	$669	$799
40	$379	$515

CDC/Imprimis 5.25" Wren Series HD's - 15 ms !

180	$1099 **	$1199
300	$1575 **	$1725
600	$2099 **	$2250

Please specify type of Mac when ordering. Internal drives include: Hard- & software, cables and installation instructions. External drives come in attractive metal cases with external SCSI ID switches with 50Pin Connectors. Quantum drives carry a two year warranty. All other drives carry a one year warranty. NO SURCHARGE FOR CREDIT CARD!

Call for Incredible Pricing! ** Internal only for MacII & IIx.

RasterOps 208 ColorBoard ... CB208 VRAM Upgrade ... RasterOps 264 ColorBoard ... Hayes V-9600 Modem
RasterOps Video ColorBoard 364 ... DayStar "FastCache CI" ... SiClone 4Mb Portable Upgrade & Much more.

Syquest Cartridge $74 Works with all drives!

"ORDERS ONLY"
1 800 950–8411
Visa • Master Charge • COD • Corporate POs

MacTel Net $18 100% PhoneNet Plus® compatible

MacTel Technology 3007 N. Lamar Austin TX 78705 Tel: (512) 451-2600 Fax: (512) 451-3323 Tech Support: (512)458-2222
AppleLink: CH0108 MacNet: MACTEL Australia: 800 125–880 U. K.: 0800 89–1428 Europe: (0041) 46–054020

Seagate
1 Year Warranty
20 Meg $389
30 Meg $439
45 Meg $499

Quantum
2 Year Warranty
Software Selectable SCSI ID
40 Meg $559
80 Meg $769
100 Meg $859

- Tested and Formatted - Ready To "Plug-In and Run"
- Complete With Cables, Manual, and *HD Prepare* - Utilities With True Partitioning

30-Day Money-Back Guarantee

Corporate Purchase Orders Invited

CAi 800-622-3384
10606 BALTIMORE AVENUE, BELTSVILLE, MD 20705
SHIPPING EXTRA

NO SURCHARGE

SOFTWARE and Hardware THAT FITS™ 1-800-972-3018

FAX: 713-446-8499 Call: 713-540-2300
20200 Eastway Village Drive
Suite 100 • Humble, TX 77347

Discount Mail Order Pioneers

"We've been making Macintosh customers happy for five years! *We were the first Macintosh mail order company to run its entire operation on Macs,* so we understand just how important that technical answer can be to those of you who count on your Macs every day.

We're true pioneers when it comes to our return policy—*we were the first company to offer returns!* **We offer a refund of the purchase price on all software** except fonts, clip-art and special order items, minus the applicable trial fee.

Unlike the competition, this offer covers over 1000 products by Microsoft, Aldus, Adobe, Ashton-Tate, Borland, Broderbund, Claris, Cricket, Letraset, WordPerfect, Mindscape and Caere and others."

—Réal Provencher
President

How To Order

Call our toll-free number. Our friendly staff of experienced Mac enthusiasts are always happy to help you!

ClearVue GS (Grayscale Monitor) Reg. $1795 Now $1619

RasterOps

ClearVue (Mac II)	1149
ClearVue SE w/ 16MHz 68000 Accelerator	1379
SE030 8-bit 19" Trinitron	4159
SE030 24-bit 14" Trinitron	1630
FrameGrabber (NTSC)	1425
14" Trinitron 24-bit	1430
16" Trinitron 8-bit	3095
19" Trinitron 8-bit	3995
19" Trinitron 32-bit	5995

Monitor with SE or Mac II Video Card Reg. $595 Now $495

SAMSUNG

ZOOM Modem 2400 Reg. $149 Now $119

Custom-tailored systems! Call us toll-free for a *FREE CONSULTATION* to help configure a system designed for your exact requirements.

SYSTEMS

Mac IIcx B&W Full-Page System, 2 Mb RAM, 46 Mb Hard Drive, Mac 101 Keyboard 4900

Mac IIcx B&W Two-Page System, 2 Mb RAM, 46 Mb Hard Drive, Mac 101 Keyboard 5550

Mac IIcx 14" Trinitron 24-bit Color, 5 Mb RAM, 105 Mb Hard Drive, Mac 101 Keyboard 6550

Mac IIcx 19" Trinitron 8-bit Color, 5 Mb RAM, 105 Mb Hard Drive, Mac 101 Keyboard 9095

Mac IIX 19" Trinitron 8-bit Color, 5 Mb RAM, 160 Mb Hard Drive, Mac 101 Keyboard 9995

Mac SE w/2-Floppy Drives, 2.5 Mb RAM, 46 Mb Hard Drive, Mac 101 Keyboard 2800

EMAC 150T Tape Back-up Reg. $1120 Now $965

EVEREX

EMAC 60T (Tape Back-up) 665

QMS PS810 Printer Reg. $3995 Now $3695

PRINTERS

NewGen Turbo Lasers:

600x300 dpi	4850
400x400 dpi	5650
800x400 dpi	7450
Qume CrystalPrint	2795

QMS ColorScript 100 Printer Reg. $8995 Now $7995

AOX DoubleTime Accelerator Reg. $299 Now $199

ACCELERATORS

Maccelerate SCSI ACC	469
SiCLONE	2850
Radius 16SE	595

DATASTACK

Int SE/CX 20	369
Int SE/CX 30	409
Int SE/CX 46	489
Ext 20	479
Ext 30	529
Ext 46	599
Ext 300	2399
Porta-Pak 20	409
Porta-Pak 30	469
Porta-Pak 46	519

DataStack Removable 45 Mb Drive Reg. $1045 Now $849

PERIPHERAL LAND

1.44 MbFloppy	329
Infinity Turbo 40	1045
Infinity Dual Turbo 40	1979
PL 200 Int	1465
PL 250 Int	1765

SCANNERS

Microtek MS 300GS (256GS)	1599
Microtek MS 400GS (256GS)	2959
Sharp JX 300 Color	3595
Sharp JX 450 Color	5895

Microtek MS 300Z Color Scanner Reg. $2195 Now $1949

9 Reasons To Order From Us *(besides saving money!)*

1. **30-day money back guarantee** on all hardware (except for special-order items). No ifs, ands, or buts!
2. **Software guarantee.** If it doesn't fit your needs, we will happily refund the purchase price minus the applicable trial fee. No hassles!
3. **Toll-free tech support** when you need advice or want to order.
4. **Pay when shipped!** We charge your credit card only when your order is shipped—not when you place the order.
5. **6-month warranty** on Apple CPUs; 90-day warranty on other Apple products. Call for more information.
6. **Trade-ins accepted.** We gladly take trade-ins on Mac CPUs and printers in good working order.
7. **Overnight delivery** when you need it.
8. **Leasing available.**
9. **Installation & training** anywhere in the U.S.

If you don't like it—we'll buy it back!

Need a magic Mac?

FREE CATALOG!

When you need a Mac for just a brief period of time, call us. We'll make the Mac you want appear, overnight if you need it.

We can work the same magic with all the popular peripherals you need, like LaserWriters, disk drives, scanners, etc.

You can rent our equipment for a week or as long as you like. When you're done, you make it vanish — by returning it to us. Best of all, by renting our Mac, you've saved money.

Call today if you need a Mac fast or if you'd like our free catalog.

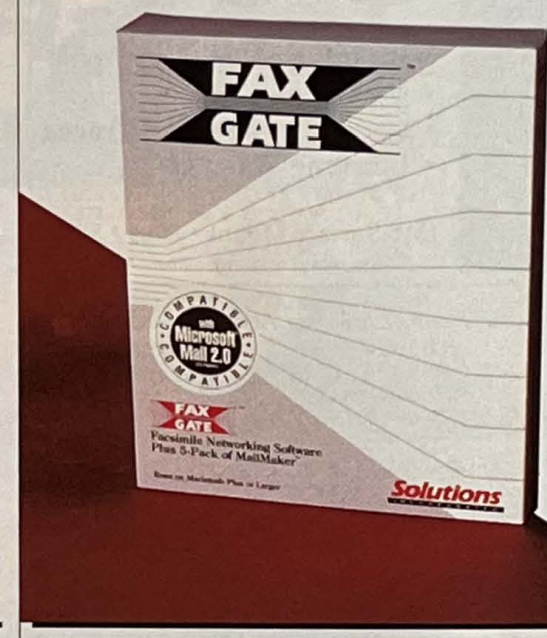
• For pricing and product information, call toll-free 1-800-GE-RENTS (1-800-437-3687).

• To receive our free catalog, call toll-free 1-800-345-2451.

GE Rental/Lease

GE Rental/Lease
(800) 437-3687

Economical solution to network faxing



Fax directly from you Microsoft Mail 2.0 Local Area Network (LAN) using FAXGATE. Everyone on the LAN can easily send faxes to any group 3 fax machine, PC fax board or Macintosh fax modem.

Requirements:

• BackFAX compatible fax modem
• BackFAX
• Microsoft Mail 2.0
• Macintosh Plus or later with 2-Mbytes of memory
• System software 6.03 or later

FAXGATE includes a complimentary five pack of MailMaker. Retail price is $395. Order from your dealer or directly from Solutions, Inc.

Solutions Inc.
30 Commerce St.
P.O. Box 783
Williston, Vt. 05495
(802) 865-9220
Fax: (802) 865-9224

MegaScreen; bonus software: $1,145!

Call now and get Quicken, Crystal Quest and After Dark free with your MegaScreen Rival purchase. This is a limited offer on the new version of the screen rated Number One by *MacWorld*, May 1989. The Rival features a dual-page display with crisp flicker-free 75Hz performance and 1024 by 826 resolution at 75 dpi.

Versions are available for the SE, SE/30 and the entire Mac II family. All at $1,145.

The price includes a high quality 19 inch Zenith black and white monitor with tilt and swivel base, controller and cable. And your bonus software.

And, only MegaGraphics offers an upgrade path to color! Visa and MasterCard accepted. Money-back guarantee. Act now, this offer is limited!

Direct Action
13352 Beach Ave.
Marina Del Rey, Calif. 90292
(800) 950-3366
Ask for offer number 19

940,000,000 Bytes!

940,000,000 bytes of permanent, fast and removable data storage on the Corel PRO 940 optical disk drive.

Corel's PRO drive – Permanent, read/write optical – combines the speed of hard drives with the permanence and security of optical drive technology: with a PRO 940 attached to your Macintosh, you should never lose another file again! And because the PRO drive's inexpensive 940-Mbyte data cartridges are fully removable, they can easily be stored overnight for safety, and traded back and forth among users of the same files.

Corel PRO-940 only $3,845. (Including interface software and cabling! Shipping and duty extra.)

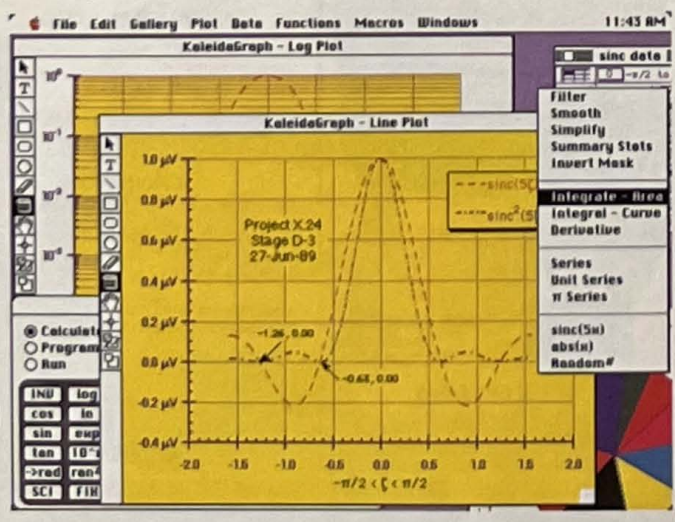
"Outstanding value on the Macintosh." – *BYTE Magazine, October 1989*

Corel Systems Corp.
Advanced Technology Div.
1600 Carling Ave.
Ottawa, Ontario
Canada K1Z 8R7
(613) 728-8200
Fax: (613) 728-9790

Professional graphics – data analysis

Announcing KaleidaGraph 2.0! Fast, full featured, most complete general purpose Mac graphing and data analysis program. KaleidaGraph supports mixed line and scatter plots, probability plots, box plots, histograms, bar charts, polar plots and more (14 types in all).

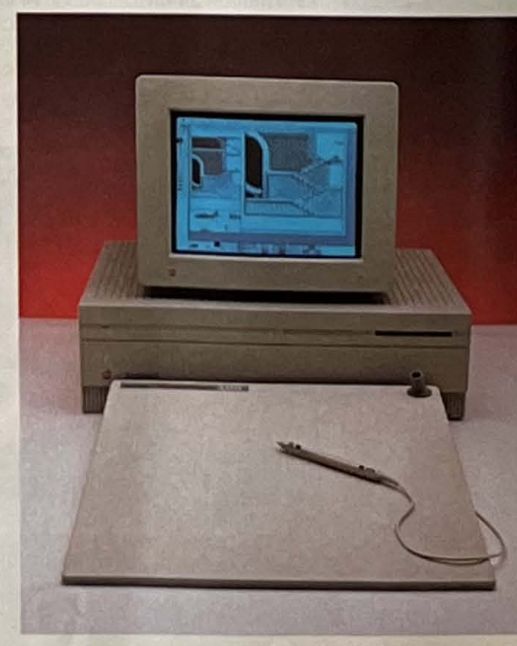
• Publication quality, high resolution graphics.
• Effortless multi-plot page layout.
• Plot thousands of points in seconds.
• Graphic templates.
• MacDraw-like plot annotation tools.
• Curve fitting to user defined functions.
• Interactively filter data.
• Programmable calculator and macros.
• $249. Now Shipping!



Synergy Software 2457 Perkiomen Ave., Reading, PA 19606 (215) 779-0522

CAD on the Mac?

Absolutely. GTCO's Macinitzer ADB supports the most popular CAD software. Users appreciate the convenient size of the Macinitzer ADB (12 by 12 inches) and the versatility of a two button stylus or a four button cursor. If CAD on the Mac demands a greater size from your digitizer, call GTCO for information on tablet sizes from 12by 12 inches to 42 by 60 inches.

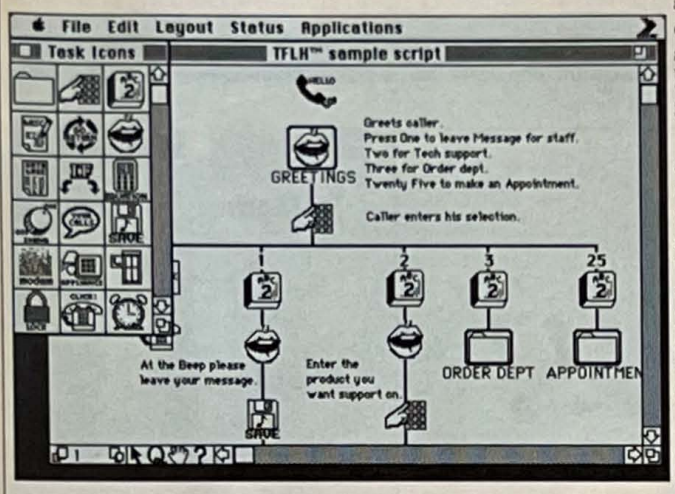


GTCO Corporation
7125 Riverwood Dr.
Columbia, Md. 21046
(301) 381-6688
Fax: (301) 290-9065

Voice Mail – only 10 percent of TFLX*

Name almost any voice or touch-tone telephone application and Magnum TFLX can do it. Voice Mail, certainly. Order Entry, no problem. Surveys, a breeze. Tech support, a snap. Telemarketing, of course. Receptionist, appointment maker, information center, and...? You bet!

The marvel isn't how much TFLX can do, but that its special Picture Programming is so easy almost any Mac user can quickly create his own applications without knowing a line of programming code!



TFLX plus Mac plus a phone equals the business tool that can talk; interact; use databases... all automatically. TFLX – the award winning hardware and software system for every business phone world wide! $2995. Call for demo or information.

* *"Magnum TFLX" was originally introduced as Teleflex.*

Magnum Software Corp 21115 Devonshire St., Suite 337, Chatsworth, Calif. 91311, (818) 701-5051

First 650-Mbyte CD-ROM clip art disc!

Want (royalty free) PostScript color illustrations, and lots of great black and white? Want reproduction quality 24-bit color (royalty free) photographs that you can manipulate to your heart's content? Want a massive amount of unique clip-art (650-Mbytes!) on CD-ROM, or on convenient floppies?

Then Media Clip-Art is for you. Media Clip-Art has been rated Excellent and Best Value around in clip art by *MacWEEK*, *CD-ROM End User*, and *Macworld* magazines. Each CD-ROM now includes PhotoMac 1.1 Working demo disk. Suggested retail CD-ROM $499.95. Floppy 3-Pak Color EPS (Mac or IBM) $89.95.

Call for your special pricing.

BLAST OUT OF THE CLIP-ART RUT!
WITH MEDIA CLIP-ART
MEDIA CLIP-ART CD-650 AND MEDIA CLIP-ART FLOPPY AVAILABLE AT YOUR DEALER NOW!!

Media Clip-Art Inc.
1879 Old Cuthbert Rd.
Unit 10
Cherry Hill, Nj. 08003
(609) 795-5993
Fax: (609) 795-0462

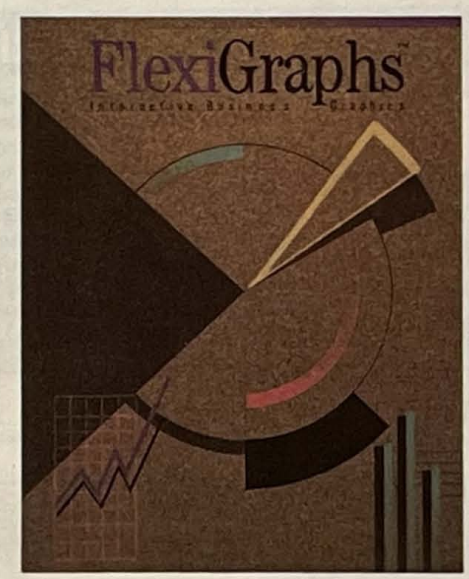
Draw your own conclusions!

Almost every spreadsheet can create graphs. Here are the first graphs that can create a spreadsheet!

FlexiGraphs is a new, visual approach to making budgets, forecasts, and projections! Dragging the mouse, you produce numbers by drawing. You choose from a palette of useful tools, including a pencil, lines, arcs, s-curves, step functions and more. When you draw, FlexiGraphs instantly produces the numbers you need in its tables. All without typing!

FlexiGraphs, including FlexiLine, FlexiPie, FlexiBar and FlexiSpread, is a stand-alone program, with capabilities that enhance any spreadsheet or graphics package.

Special introductory price $149. Call 1-800-366-6045 to order your copy of FlexiGraphs. And find out how easy drawing your own conclusions can be!



Tree Star
1802 Hill Side Rd.
Santa Barbara, Calif. 93101
(800) 366-6045, (805) 682-4096

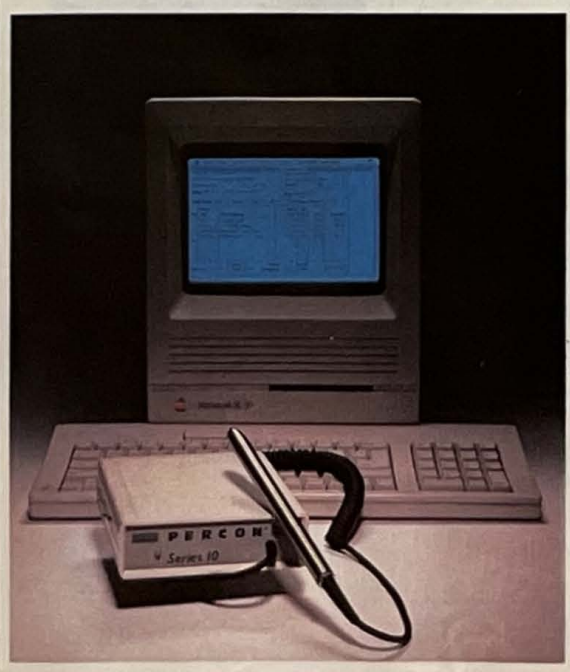
Sony magneto-optical disk

We don't pay extra to put our name on the drive and can pass the savings on to you. Up to 624-Mbyte per cartridge of removable, rewritable optical storage. With our software there's nothing new to learn – works like your floppy disk. Supports up to six drives on any Macintosh SE or II including the IIci; creation of bootable cartridges, 512 or 1024 bytes/sector media; and disk back-ups using a single drive. Installs in minutes.

$3,950. Price includes software, manual, cable, and cartridge. Additional Sony cartridges, $195. Disk only, $3,650. Interface kit only, (software, manual, cable, and cartridge) $275.

Blueridge Technologies, Inc. P.O. Box 430, Flint Hill Square, Flint Hill, Vir. 22627, (703) 675-3015

PERCON's series 10 for your Mac



Only your imagination limits how you benefit from PERCON keyless data collection.

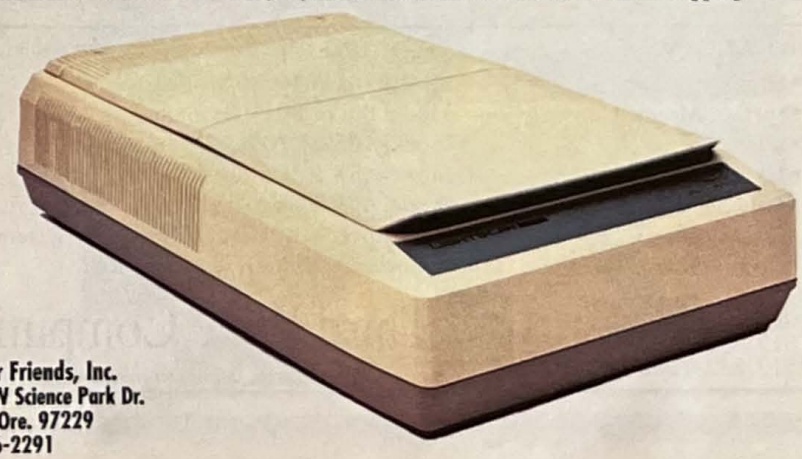
Checking out books or checking in employees – input data quickly and accurately using bar codes or magnetic stripes. PERCON has proven bar code solutions for Apple Macintosh, DEC, IBM, and Wyse.

Five year warranty on decoders, one year warranty on input devices.
Call 1-800-8-PERCON.

PERCON, Inc.
2190 West 11th Ave.
Eugene, Ore. 97402-3503
(503) 344-1189
Fax: (503) 344-1399
AppleLink: D3857
CONNECT: PERCONENG 1

LightScan 300G

LightScan 300G professional, flatbed scanner from Computer Friends, Inc. brings real power to your Macintosh desktop publishing applications at a remarkably low cost. Bring pictures from a variety of sources into your publishing program, save them in multiple file formats, manipulate and enhance them to fit your design specifications. LightScan 300G has a maximum resolution of 300 by 300 dpi and can be used in grayscale, line art, halftone, mixed line art/halftone and virual grayscale modes. 256 levels of gray are supported. Scan a full page image in ten seconds! LightScan is provided with free Letraset's ImageStudio software. The features and applications of LightScan 300G are endless. Call us at (503) 626-2291 for more information. $1,599, shipping $12.50.



Computer Friends, Inc.
14250 NW Science Park Dr.
Portland, Ore. 97229
(503) 626-2291

MarketCenter

THE SOURCE FOR NEW PRODUCTS, SERVICES, AND INFORMATION IN THE MACINTOSH MARKET

MAC MEMORY

LOWEST PRICE !!!

- *1 Meg Module*
- *4 Meg Module*
- *NTX Module*
- *Laptop Module*
- *"No worry" lifetime warranty*
- *Free installation kits*
- *30 day money back guarantee*
- *Corporate & University POs accepted*
- *All major credit cards accepted*

TechnologyWORKS

4030 Braker Lane West Austin, Texas 78759

(800) 622-2210
PO FAX #: (512) 794-8520
Guaranteed same day shipping

We are a certified Apple developer and a fully integrated sales and manufacturing company. We offer the highest quality product and the best service in the business.

Memory
- Highest Quality
- Surface Mount Construction
- Low Profile
- 100ns, 80ns, & faster
- *Lifetime Warranty*
- *Credit cards, COD*
- *Corp./Govt. POs*

1826-B Kramer Lane
Austin, TX 78758
(512)832-8282
(512)832-1533 FAX

Storage (Internals, externals, removables, and tape units)

Model 40i or 40x (Quantum)
Model 80i or 80x (Quantum)
Model 105i or 105x (Quantum)
Model 45R Removable (Syquest)
Model 60T Tape Drive*
DATadrive™, 1.3GB DAT Archival System*
**Bundled with Retrospect Software*

68851 PMMU
Mac II Video RAM
RasterOps Video Cards
Micron Video Cards
Syquest Cartridges

800-284-0486

Third Wave supplies individuals, resellers, universities, and corporations with the finest in products, service and support. Satisfied customers include NASA, Lockheed, Apple, Microsoft, Cray, and the list goes on.... Let us add your name to the list!

Third Wave Computing, Inc. Call for current prices on all products

Certified Apple Partners. Manufacturers of the highest quality products for your Macintosh.

INDEX

58 Memory Upgrades
Boards
Disk Drives
SIMMs

61 Software
Business Management
Desktop Publishing
Education
Finance
General
Graphics
Hyperstack
Investment

62 Hardware
Bar Coding
Cables
General
Peripherals

64 Special Services
General
Programming
Toner Recharging
Used Equipment

Accessories
CD ROM
Connectivity
Miscellaneous

INFO. 800-825-4ADS

Ziff-Davis Publishing Company
Classified Advertising, 3rd Floor
One Park Avenue
New York, NY 10016

Mary Jo Nash 212-503-5122
AL, AK, AR, CO, DE, FL, GA, IL, IA, LA, MN, MS, MO, NM, ND, OK, TX, WA, WI, SD.

Amy C. Loucks 212-503-5131
CA (Southern), D.C., HI, KS, ME, MD, MA, MT, NV, NH, NJ, NC, RI, SC, UT, VT, VA, WV, Foreign.

Annamarie de la Cruz 212-503-5865
AZ, CA (Northern), CT, ID, IN, KY, MI, NE, NY, OH, OR, PA, TN, Canada.

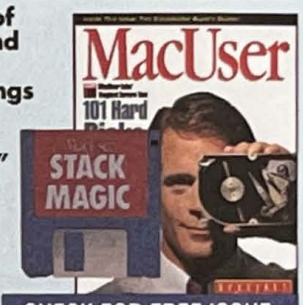
MacUser

DISCOUNT ORDER FORM

FREE ISSUE!

FREE DISK!

Send in this form to get a Free Issue of the Macintosh Resource to explore and enjoy. If you like what you see and want more, you'll be entitled to Savings of 44% *plus* you'll get MacUser's exclusive Stack Magic Disk — an exciting collection of "Super-Stacker" Utilities, MultiFont, sound effects, animated buttons, cursors and more! FREE with your paid subscription.



NAME PLEASE PRINT FULL NAME 8H583

COMPANY

ADDRESS

CITY STATE ZIP

Savings based on annual newsstand price of $35.40. Please add $18 for postage outside the U.S.,U.S. currency only. Allow 30 to 60 days for delivery of first issue.

CHECK FOR FREE ISSUE:

☐ **YES.** Send me my Free Issue. If I want to keep MacUser coming I'll pay the bill for just $19.97 for 11 more issues (12 in all) and get the Stack Magic Disk FREE. If not, I'll return the bill marked "cancel," keep the free issue, and owe you nothing.

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS MAIL PERMIT NO.66 BOULDER, CO.

Postage will be paid by addressee

MacUser
P.O.Box 52461
Boulder, Colorado 80321-2461

SIMMs

MacWEEK reaches two out of three Fortune 500 companies every week.

etc.
5426 Beaumont Center Blvd.
Suite 340
Tampa, Florida 33634
(800) 882-2863 FAX (813) 888-9535

Best Priced SIMMS etc.
45 MEG REMOVABLE CARTRIDGES $78.00

- 1x8's and 4x8's
- Lowest Prices
- No Subcharge or Handling Fees
- *FAST DELIVERY*
- Low Profile

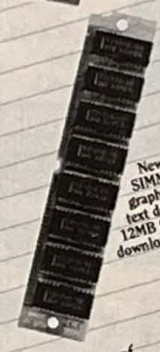
"PORTABLE MEMORY IN STOCK" by Siclone™

FREE FASTdrive™
RAM Disk software with purchase of 4MB or 1MB Mac SIMMs

Gives you up to 32MB of Mac Memory!
- FASTdrive™ delivers the power of System 7 today.
- Run a full 8MB of Operating System Memory and up to 24MB of RAM Disk.
- FASTdrive™ can be set up as the startup application and is 60 to 120 times faster than your hard drive.

New 4MB x 8 Composite SIMMs, only slightly larger than 4MB SIMMs using 4Mbit chips, are much more economical. Add up to 32MB to Mac II, IIx, IIcx and IIci. Available for immediate delivery.

Introducing LaserWriter II NTX SIMMs
- Add up to 12MB to any LaserWriter II NTX.
- Makes printing faster and does not tie up internal memory.
- Get back to applications sooner.

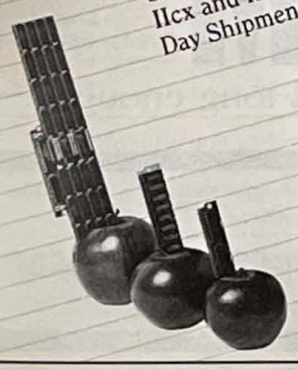


New LaserWriter II NTX SIMMs. Great for printing graphics intensive or large text documents. Add up to 12MB for more room to download fonts.

Newer Technology...your most dependable source for Memory Expansion SIMMs.
We stock 256K, 1MB, and 4MB Memory Expansion SIMMs for the Macintosh Plus, SE, SE/30, II, IIx, IIcx and IIci and offer Guaranteed Same Day Shipment!

Designers and manufacturers of The Newest Technology in Memory for Macintosh®, Compaq®, IBM® and compatibles.

Call Our Memory Hotline For Prices and Discounts
1-800-678-DRAM (678-3726)



©1990, Newer™ Technology

Newer™ Technology
1117 S. Rock Rd., Suite 4
Wichita, KS 67207
Phone (316) 685-4904
FAX (316) 685-9368

In Canada Contact:
Tallgrass Technologies, Canada, Inc.
1775 Meyerside Drive #1
Mississauga, Ontario L5T 1E2
(416) 673-3244
FAX (416) 673-3926

Newer™ TECHNOLOGY

THE Chip MERCHANT

1 Meg Simms for Macintosh Plus, SE or Mac II
80NS Fast Page $63.00

Video Rams for Mac II Color Card
Set of 8 $39.00

- 5 year guarantee on manufacturer's defects and chip failure
- Other chips available • All chips new
- Surface mount

Prices subject to change without notice.

CALL (800) 426-6375 Orders
(619) 268-4774 Information

9285 Chesapeake Dr., Suite L, San Diego, CA 92123
Fax #619 268-0874

UPGRADES!
512Ke - Plus $295
512K - Plus $625
128K - Plus $695
Apple 800K drive/ 128K ROM kit $299
256K SIMMs $24

1 Meg SIMMs
- 100/80/70ns
- Low profile
- Surface mnt
- All new parts
- Lifetime guarantee

$61
Always In Stock!
Visa & MC okay (add 3%)

800-332-6581
PERIPHERAL OUTLET
314 S. Broadway • Ada, OK 74820
405-332-6581 Fax 405-332-9582

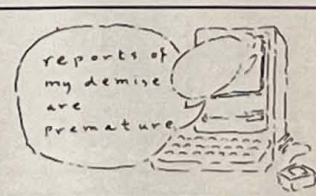
SIMM / SIP
1 MEG x 8 as low as
$69.00
High quality • Low prices • 3-Year warranty
Corporate, government & university P.O.'s welcome (O.A.C.)
1-800-366-4433
SHEC@M COMPUTERS
22755 Savi Ranch Pkwy G, Yorba Linda, Ca 92686
Tel: (714) 637-4800 Fax: (714) 637-6293

Mac Rescue™ for the Classic Mac

Some "experts" are telling us to trash out the 128K and 512K Macs. Don't do it! Classic Macs are far from moribund. Computer Care developed Mac Rescue, a daughter board that snaps on the enhanced Classic Mac motherboard. No need to fold, spindle or mutilate. Installs in minutes to get Mac Plus functionality.

Mac Rescue has 6 SIMM slots so you can upgrade the Classics to 1 meg, 2 megs, 2.5 megs or 4 megs of RAM.

It also has a SCSI port to breathe even more life into your faithful servant.



Limited time offer: We'll buy back your old fashioned expansion boards when you order Mac Rescue, call for exact price quote.

Ford Centre, Suite 1180, 420 North Fifth St.
Minneapolis, MN 55401
(612) 371-0061 (800) 950-CARE (2273)

Computer Care

Dealer inquiries welcome.
Visa/MC accepted.

Do More!
...with SIMMs in your Mac.
Free Opening Kit with order!
Macintosh opening kits include a Torx driver, pryor tool and wrist strap Sold Separately for $19.95
Call for pricing on QUALITY Memory!
800•542•7466
Since 1984•Same Day Shipping•Lifetime Warranty•Free Tech Support•Corp/Univ PO's
Turbo Technologies, Inc.
112 Denton Ave•New Hyde Park•NY•11040 FAX (516)877-7784

SIMMs

Mac II POWER PACKAGE!
• ORCHID ACCELERATOR CARD
• 4 MEGS OF SIMMS
Boosts your Mac II Performance by Up to 30%
$549.95
Some quantities limited. Orders under $100 subject to service charge. Pricing shown cash with order - limited to stock on hand. Call for availability. Credit card, COD, open account orders slightly higher. All sales final. All returns subject to 15% restocking fee plus shipping charges. 8 AM/6PM PDT.

Hard Drives
•40Mb 28ms INTERNAL $549 EXTERNAL $699
•100Mb 25ms INTERNAL $749 EXTERNAL $899
•200Mb 18ms INTERNAL $1299 EXTERNAL $1449
•312Mb 16ms INTERNAL $1549 EXTERNAL $1699
•632Mb 16ms INTERNAL $2599 EXTERNAL $2749

MacSprint II
Orchid MacSprint II Accelerator Card
$229.95
• Provides 32K of Cache Memory
• Installs easily in five minutes
• Eliminates Mac II wait-states
• In stock for immediate shipment

Macintosh SIMMS
$84.95
•1 Meg X 8
•80ns Low Profile
All SIMMS are manufactured & tested in the USA to the highest quality standards. Immediate shipment, with LIFETIME WARRANTY to the original purchaser.

MacFax $499.95

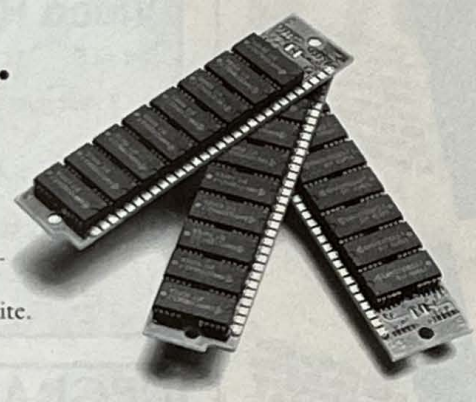
Make the call.
1•800•RAMBUYS
8 AM/6 PM PDT

MemoryMasters
AN IMAJON GROUP COMPANY
Primus

2023 O'TOOLE AVE • SAN JOSE, CA 95131 • (408) 954-0300 (INFO) • (408) 954-0770 (FAX) • (800) 726-2897 (ORDERS)

Memory . . .

Satisfy memory-hungry applications with Third Wave RAM expansions for Macs, NTX printers, and soon for the coveted Mac Portable. We assure the highest quality surface-mount construction in a full range of speeds to quench that RAM appetite.



Storage . . .

Each Third Wave drive comes with a full array of software, including HyperDex™ and After Dark™, 2 year warranties, data recovery services and professional technical support. We're convinced that a Third Wave storage purchase represents the highest ratio of price vs. performance on the market—and we think you'll agree. Call for details on price and specifications on our full line of internal, external, removable, and DAT models.

Quality, Support, Performance, and Value are standard features of our products.
1-800-284-0486. VISA/MC/AMEX; Corporate, Government and Educational POs accepted.
FREE AfterDark Starter Kit & HyperDex with all drives, HyperDex with all memory.

Third Wave Computing, Inc.™
1826-B Kramer Lane, Austin, Texas 78758
(512)832-8282 • (512)832-1533 FAX

©1989 Third Wave Computing, Inc.

MEMORY PLUS

$66

1M x 8 SIMMS for Macintosh	$66
4M x 8 SIMMS for Macintosh	$499
1M x 9 SIMMS for Mac II Ci	$73
4M x 9 SIMMS for Mac II Ci	$549
APPLE NTX Laserwriter 1Meg	$199

FAX/Modems

2400PF-pocket fax/modem. Battery operated. Ideal for portable applications. Hayes compatible.	$279
2400XF-desktop fax/modem. Comes with communications software. Hayes compatible modem and Group III fax.	$239
2400X-desktop modem. High quality, desktop unit. Only 4.5" x 5". Hayes compatible.	$179

MEMORY PLUS 1-800-388-PLUS (7587)
We accept MasterCard and Visa (2% add'l)

RAM

Haven't you waited long enough?

Upgrade your Mac Plus, SE, SE/30, II, IIcx, or IIx with Apple® standard 1mb SIMMs modules. Call for current price. We are the lowest.

HARDWARE HOUSE 1-800-RAM-4MAC
3440 Market St., Philadelphia, PA 19104 (215) 387-5806

Leave your mark on volume buyers through
MacWEEK's MarketCenter.

System 7? MultiMedia? Desktop Publishing? Color Scanning? CAD/CAM? Just plain MultiFinder™?

Let **PSI** upgrade all your Macs, from the oldest Plus to the newest Portable. We've got it all under one roof. No gimmicks, no give-aways, just great quality products.

1 Meg SIMMs, 4 Meg SIMMs, NTX SIMMs, Portable Memory

(800) 622-1722 **(408) 559-8544** in CA

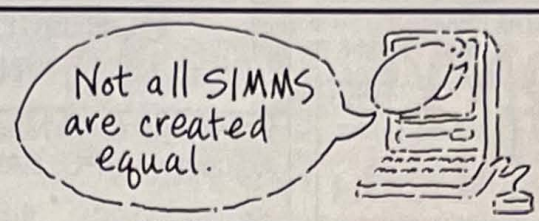
PSI, 2005 Hamilton Avenue, Suite 220, San Jose, CA 95125 AppleLink: PSI

SIMM/SIPs
- 1 MEG 80ns AND 100ns.
- 256K 80ns AND 100 ns.
- LOW! LOW PRICES!!!
- WARRANTY ON ALL MODULES

DELTA RESEARCH LABORATORIES
26072 MERIT CIRCLE, SUITE 119
LAGUNA HILLS, CA 92653
(800) 999-1593
(714) 367-0344

SIMMs

Some work, others don't.



Some SIMMS are expeditiously fabricated and sold, others are carefully designed and manufactured. Computer Care SIMMS are built on four layer boards to eliminate noise glitches. A glitch prevented is an application saved. All chips are tested before and after they go on the board.

We provide tech support with each order and on a toll free line. Call and we'll get you on the right path right away.

We design, make and market 256K, 1 meg and 4 meg SIMMS, Softstep™ memory expansion modules and Mac Rescue,™ an upgrade board for Enhanced Classic Macs. All have a one year warranty. Call today.

Computer Care

Ford Centre, Suite 1180
420 North Fifth St.
Minneapolis, MN 55401

(612) 371-0061
(800) 950-CARE (2273)
(612) 371-9342 Fax

ACCU-SIMMS
High Quality/Low Cost

UPGRADE YOUR MAC II, SE, OR PLUS, WITH OUR LOW PROFILE SIMMS. WE MANUFACTURE AND GUARANTEE THEM FOR LIFE.

1-800-662-SIMM
"Call for current low pricing"

DATA MEMORY SYSTEMS CO.
15 Union St., Lawrence, Ma. 01840
508-683-2325 Fax 508-975-5232
In Business Since 1963

PMMU

System 7.0, virtual memory, A/UX on Mac II's!
68851RC16A "A" ! MC qualified B36K mask! $CALL!
Also Math Coprocessors!
VISA/MC/DISC/AMEX
Confirmed Govt, Univ, Corp, PO's, COD's
Tercom...
206-527-1257. Fax Orders: 206-526-0919
6920 Roosevelt Way NE, Suite #193, Seattle, WA 98115
1-800-544-9543
1-800-669-7555

Leave your mark on volume buyers through
MacWEEK's MarketCenter.

SIMMS . . . Your Way

Resellers
WE BUILD SIMMs...
Control your SIMM pricing
you supply the RAM-
we do the rest!
Call For Pricing

End users
BUY DIRECT & SAVE
One Meg SIMMs in stock
Available immediately
Fits All MACs
Money Back Guarantee
Lifetime Warranty

MICRO ELECTRONIC TECHNOLOGIES, INC. 800-766-SIMM
35 South Street, Hopkinton, MA 01748 FAX: (508) 435-6481

1MB SIMM **$75.** or lower MacWEEK Special!

70 & 80ns • Surface Mount • Low Profile • High Quality 4-Layer Board
4MB SIMMs Available • LaserWriter II NTX SIMMs In Stock
Lifetime Warranty • VISA, MC No Surcharge • Same Day Shipping

SOUTH COAST ELECTRONICS
10920 Wilshire Blvd. Suite 1100
Los Angeles, CA 90024
(213) 208-3260 Fax (213) 208-3282
800•289•8801

Mac II Serial Ports

Mac II NuBus Boards:

2 Serial Ports	$299
4 Serial Ports	$379
Parallel Interface	$199
Proto*	$279
Extender*	$ 59

*Also available for the SE/30

1-800-367-8465
Creative Solutions, Inc.
4701 Randolph Rd. #12 Rockville, MD 20852

Harris Laboratories, Incorporated
The Memory People

We're looking for Dealers who are dedicated to the products they sell and are committed to servicing their customers dreams. We manufacture and market our innovative memory products with this same philosophy in mind.

Call and ask us about our Apple //e®, Apple IIgs®, and Macintosh® memory boards. Or better yet, just give us a call.

No end users please
Apple® and NeXT® Dealers ONLY
1-800-783-DRAM
1-612-890-4498

For more information call:
800-825-4ADS

Desktop Publishing

Cartridges

800-541-2318

45 Meg Removables
ONE YEAR WARRANTY

Call us for expert consultation and the best prices on all hard drives and data storage solutions.

$79 Maya Computer Waitsfield, Vermont

802-496-6982
FAX 802-496-8110

POSTSCRIPT SLIDES
IMAGESETTING
QMS COLOR

NATIONWIDE SERVICE

The J&J Computing service bureau provides output at up to 2400 dpi for customers throughout the U.S. Files for output can be uploaded to our 24-hour BBS for same-day turnaround. Imageset output is available on either RC paper or camera-ready film. We also provide color output services with our QMS ColorScript 300 dpi printer, and full-color 4000-line resolution slides from any program or PostScript file with our Adobe ChromaScript and Agfa Matrix QCR-Z PostScript slide recorder.

Call **800-359-6381** for a free sample kit & disk.

POSTSCRIPT SLIDES	IMAGESET OUTPUT	QMS COLOR OUTPUT
$10	$5	$7

SERVICE BUREAU

Software/ Business Mgmt.

SMART ALARMS™
& APPOINTMENT DIARIES™
Professional Office Scheduling System

$99 & up

JAM Software
Box 1345, Pt. Reyes Sta, CA 94956
(415) 663-1041
Int'l. 27A Nowranie St., Summer Hill NSW 2130 AUS
(612) 799-1888

General

Auto-Backup, Auto-Save... While You Work!

SHADOW™ Shadow works automatically in the background. Just set it and forget it!

Automatic Save: Saves your documents at an interval you specify.

Automatic Backup: Shadow periodically copies the documents that have changed since they were last backed up. Shadow can back up onto any floppy, hard or removable disk, network server or Finder-mountable tape drive.

Introductory Price: Only $49.95 (+ $3 S&H)
Orders: 800/999-4649 Info: 617/266-7858
Natural Intelligence, Inc. 86 Richdale Ave., Cambridge, MA 02140

Calling about an ad? Say you saw it in **MacWEEK.**

MacWEEK reaches 70,000 qualified subscribers each issue. That adds up to over 200,000 sales proposal opportunities *if* you take advantage of

MacWEEK's MarketCenter

To place your ad today, call
212-503-5131, 212-503-5122, 212-503-5865
or **800-825-4ADS.**

General

FREE 2nd-DAY AIR!! GREAT SERVICE!!

Adobe Illustrator 88	277
Aldus PageMaker 3.02	379
Aldus Persuasion 2.0	329
Claris CAD	569
Claris FileMaker II	209
Electronic Arts Studio/8	274
EMAC 60D Ext. HD 28ms	659
Hayes InterBridge	569
Informix Wingz 1.1	247
Key Tronic MacPro Keyboard	119
Kinetics Etherport-II	446
Microsoft Excel 2.2	244
Microsoft Office 1.0	519
Orange Micro Mac86 2.0	429
Prometheus 2400MFAX	229
Sony 1304-14" color monitor	689
SuperMac PixelPaint Prof. 1.0	396
U.S. Robotics HST 9600	599
TOPS Network Connector DIN-8 or DB-9 (2 min)	19

SIMM's
1 Meg 80ns CMOS
Lifetime Warranty!!
$71 Quantity of four
Plus(Quantum) 105 Int. $687
inc. brackets,cables,soft.

-MacSE,1M, 2 FDHD	1899
-MacSE/30,5M,80HD	3935
-MacIIcx,5RAM,40HD	4149
-MacIIcx,8M,105HD	4728
-MacIIci, 5RAM,80HD	5549
-MacIIci,8M,105HD	5964

VIDEO CARDS

Micron 8-bit color card	369
RasterOps 264-Mac II	649
SuperMac ColorCard24	709

Claris Smartform Designer $279 This week only

Ask about the MacSystems Performance Guarantee

MAC SYSTEMS
Service on a Silver Platter...
1-800-942-6227
Broadway Plaza Altus, OK. 73521
FAX (405) 477-2329
COD/Corp&Univ P.O.'s

MAC PAC

SONY M/C VISA COD

3.5 DS/DD 53¢ EA | 3.5 H-D 1.44 MEG $1.50 EA

CALL ROBERTA WIRTEL
PRODUCTS PLUS
1-800-544-3472
3350 SCOTT BLVD • STE: 1903
SANTA CLARA, CA 95054

BarCoding

Postscript Bar Codes
Not a Font

Pre-Press (Film Master) professional quality.
Adjustable UPC, EAN, 39, I 2of5, 128, Codabar.

- Creates Encapsulated Postscript Files.
- Bar Width Reduction.
- Static and Sequential Labels (Step and Repeat).
- Interactive Verification System.

CALL SYMART : 612-545-3033

Graphics

$5 Slides of course they're 4000 line resolution

We've Done It!

- Unsurpassable quality
- True customer service
- Best price anywhere

and yes, this includes 24 hour turnaround!

In NY State Call: **212.989.2727**
Outside NY State Call: **800.445.9002**
Nextwave Productions NYC, NY

The WORDPRO

PostScript, TIFF, PICT, PICT2, VCR

- 4000 line resolution/73 fonts
- 24-Hour Turnaround
- Color Hard Copies
- Custom Slides Available

$5 SLIDES

Visa, MasterCard, Commercial Accounts

Call Voice: 1•800•842•3860
Call Fax/Modem: 1•607•257•2575

NAVAL CLIP ART

Info: 913-682-3668
Orders: 800-441-1228
$89.95 + $4 s/h • Visa & MC
Storm King Technology
37 Dragoon • Leavenworth KS 66027

NavyArt™

SLIDES!

Digital Photo

★ PowerPoint 2.0 ★ More II
★ Persuasion ★ Stand Out!
and many more
Overheads, color prints too!

Now offering Adobe Illustrator 88

We offer the best in quality service and technical support!

4000 line resolution for only $5

call for more information: 402-393-1744

Macintosh Slides Overheads Color Hard Copies

Supported Packages

- Persuasion
- PowerPoint
- CA Cricket
- Ready Set Show
- More II
- Canvas
- MacDraw II
- any PICT II file
- and PC packages

Prices Start at $6.50
24-Hour Service
1-800-232-5411
SlideImagers™ Atlanta, Georgia

Hardware/ Bar Coding

BAR CODE READERS

For All Macintosh Models

- No software changes
- Attaches as 2nd keyboard or through ADB
- Installs in seconds
- Reads UPC/EAN, Int 2 of 5, Codabar, Code 128, MSI, and Code 39
- Outstanding read rate

Complete with Steel Wand—$399
Complete with Laser—**$989**
Magstripe Option—**add $100**
64K Portable Reader—**$899**

1 YEAR WARRANTY
30 DAY $$ BACK GUARANTEE

CA 408-458-9938 ***800-345-4220***

417 Ingalls Street
Santa Cruz, CA 95060

WORTHINGTON DATA SOLUTIONS

BAR CODE & MAGNETIC STRIPE READERS

- For all Macintosh Computers
- No additional port or program required
- Totally transparent to all software
- Does not affect keyboard operation
- Simple and quick installation
- Also available:
  UPC and 39 print software
  Magnetic card encoder
  SmartCard Encoder/Reader

TPS Electronics
4047 Transport Street
Palo Alto, CA 94303
Telephone: 415-856-6833 FAX: 415-856-3843
Telex: (Graphnet) 371 9097 TPS PLA
1-800-526-5920

Peripherals

Western Digital 20MB Ext. $395

TRIGON ▲ WEST
1-800-325-8688

EMAC MD 2400 MODEM $189

CONNER PERIPHERALS

40mb 29ms int	$449 ext	$549
100mb 25ms	$649	$749

EMAC HARD DRIVES

IMPACT 20 (40ms)	$469
IMPACT 40 (19ms)	$729
IMPACT 80 (19ms)	$959
IMPACT 170 (15ms)	$1359
20DL ZERO FOOTPRINT	$459
40DL ZERO FOOTPRINT	$629
80DL ZERO FOOTPRINT	$959
40mb int. (19ms)	$525
80mb int. (19ms)	$895
170mb int. (15ms)	$1299
60mb 60T/Tape Backup	$669

SOFTWARE

WORD	$247
EXCEL	$247
WORKS	$187
MACWRITE II	$167
MACDRAW II	$257
FILERMAKER	$229
FASTBACK II	$119
DISKLOCK II	$119

HP DESKWRITER Fonts & Accessories

1MB SIMMS 80ns $79

(714) 833-9322 ▲ FAX (714) 474-4237 ▲ VISA & MC ACCEPTED ▲ CORP PO'S WELCOME
4500 CAMPUS DR. #521 ▲ NEWPORT BEACH, CA 92660

EXTERNAL 200 MB $1089 Expires 3-31-90 Model HD200P

	Portable	Zero Foot Print
20 MB	$329	$369
40 MB	$479	$519
80 MB	$649	$769
100 MB	$799	$869
200 MB	$1399	$1469
500 MB CD Rom		$599
45 MB*	$749	$799

* Removable Hard Disk-Cartridges Extra

Affordable External Hard Disk Drives for Your Mac!
Send check or money order for immediate delivery. Call for VISA-MasterCard terms.

CANYON TECHNOLOGY
15 Holster • Canoga Park • CA 91307
(818) 716 - 9476 • FAX (818) 716 - 9484

▼ General

DULL

But we sell four products cheaper than anyone else.

1-800-654-3242 New number!
advance Computer Systems
636 Sixth Avenue
New York, NY 10011

1. QMS Colorscript Model 10 Color Postscript Printer $7985
2. RasterOps Colorboard 264 24-bit color for Apple 13" monitor. $555
3. PLI Infinity 40 MB Removable Drive $980
4. PLI Infinity Optical 600 MB Erasable Optical Drive $3945

SAVE UP TO 50% ON EXTERNAL DRIVES FOR MACS

20MB	Seagate 40ms	$338
46MB	Seagate 40ms	$444
80MB	Seagate 28ms/Quantum 12ms	$578/698
105MB	Quantum 12ms	$778

All drives sold complete w/cables, util. software, formatted & ready to use. 3 yr. warranty.
Call for low, low prices on all Seagate, Quantum, Conner & CDC ext /int. drives.

1-800-888-1197
Comp-U-Save
3857 Birch St. • Newport Beach, CA 92660

Peripherals

Quantum Pro Series

(3.5" HALF HEIGHT)

CAPACITY	ACCESS	INTERNAL	EXTERNAL
40MB	12MS	$355	$455
80MB	12MS	$555	$655
105MB	12MS	$635	$735

Conner 40MB INT. $339

(3.5" HALF HEIGHT)

CAPACITY	ACCESS	INTERNAL	EXTERNAL
100MB	25MS	$629	$729

MAXTOR 5.25"FULL HEIGHT

345MB	14.5MS	$1595	$1745
645MB	16.5MS	$2595	$2745

SyQuest

44MB - Removable 25MS - $695

(Includes Cartridge)

MISCELLANEOUS

KEYTRONICS Keyboard $119
1MB SIMMS - 80NS or Faster ..... CALL
Sony CPD-1304 Monitor With Cable $679
RasterOps 24 Bit Color Card for MAC II .. $605
Orchid MacSprint II $229
150MB Teac Tape Backup ..... CALL
EMAC 2400 Baud Modem W/MNP LVL 5 .. $169

Drives Include Software & Mounting Brackets. Corp. & Educ. P.O.'s Accepted
Call (714)768-1490 FAX(714) 768-7307
A DIVISION OF PACIFIC BUSINESS SYSTEMS VISA & MC ACCEPTED

Prices subject to drop! Call For More Information.
NO SURCHARGE ON VISA & MC

ClubMac

7 MUSICK • IRVINE, CA 92718 • (714)768-1490

Quantum 40mb $359 *

Quantum 12ms Access

capacity	internal	external
40mb	$ 359	$ 469
80mb	559	669
105mb	649	759

Above internal drives fit Mac II/SE/SE30/CX/CI
All include cables, brackets, software, etc.

Teac T-60 Tape w/Retrospect ! $ 599
Teac N50 155meg Tape w/Retrospect ! $ 849

Imprimis Wren Drives

capacity	internal	external
173mb	$ 1159	$1259
300mb	1649	1749
600mb	2295	2395
1 Gig	4995	5195

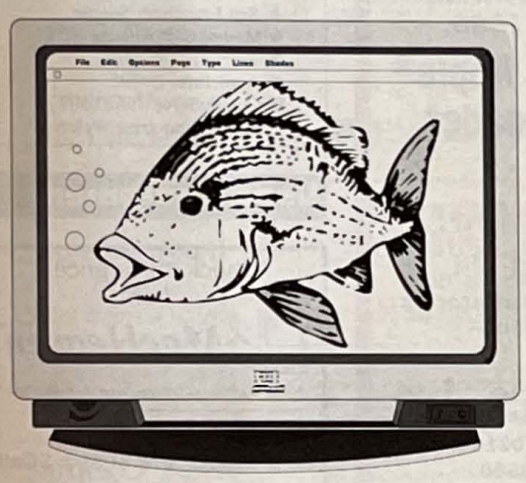
Ask about our other WREN sizes

SyQuest 45 meg Removable $699 **
SyQuest Dual 45 meg Removable 1295 **

**w/ 1 cartridge • $75 per cartridge for additional cartridges

Ask about our other Dual Drive combinations!

1-800-233-7550 Toll Free, U.S. and Canada
VISA/MC, NO SURCHARGE 9:30am -7pm CST
P.O. Box 32982 • Kansas City, MO 64111 • USA



Catch a Big One on the Pixel River.

$839 2 page Display with card.

Fishing for a Big Screen? Look no further. Here on the Pixel River, the fish have never looked bigger. 1024x768 pixels at 72 dpi with a blazing 78hz vertical refresh , and full one-year warranty. For just $839. Including video card.

72 hr. delivery or we ship for free!

30 day MBG • Visa, MC, Amex.
Call Pixel River today.
We'll save a canoe for you.

1-800-32-PIXEL

PIXEL RIVER

Here's The Difference

WE BUY MACS

The Maya Guarantee
Satisfaction is guaranteed. Maya Computer offers a one year parts & labor warranty on both new and used Macintosh computers. Return any product in saleable condition within 30 days of purchase for a cheerful refund or credit.

We Fix Macs

Maya's expert service technicians can save you hundreds of dollars by doing fully warranted repairs of only what's broken, all the way down to board level. We don't just swap out entire modules to fix an inexpensive component.

We Sell Macs

...one system or complete offices. Give Maya a call before you buy. At Maya Computer we use the technology we sell. Strictly Macintosh, Simply The Best!

Used Macintosh Systems with Maya's Exclusive One year Warranty

Macintosh 128k	$295
Macintosh 512K E	$625
Macintosh Plus	$965
Macintosh SE w/30 meg drive	$1830
Mac II CPU	$2450
Mac IIci w/4 MB-Ram w/100 MB-HD	$5575

New Equipment:

Printers:

Toshiba 24 pin dot matrix printers w/Mac Matrix:	
P321 SL 24 pin	$561
P321 SLC color	$714
Ocè Model 5232B Color PostScript Printer	$13,432
Kodak Diconix M150 Portable Ink-jet printer w/ATM	$522

SyQuest Drives & Cartridges:

DataRemovable 45 meg drive w/cartridge	$849
SyQuest cartridges	$79
MicroTech 45 meg drive w/cartridge	$849

Video Products:

Micron Xceed 8 bit video card for Mac II or SE/30 13" Monitors	$380
E-Machines Colorpage 15	$1199
AAPPS MicroTV	$283
Sony CPD1304HG 14 inch Trinitron Monitor	$775
Raster Ops ClearVue GS	$1645
Daystar Fast Cache IIci	$799

Software:

CE Software QuickMail 10 user	$259
CheckMark Multiledger	$245
Tops v2.1	$138

Power Supplies:

Macintosh 128, 512 or plus NEW	$175
Macintosh 128, 512 or Plus, reconditioned	$125
Mac SE or SE/30 NEW	$288
Mac II or IIx NEW	$352
Mac IIcx or IIci NEW	$343
Mac Plus Batteries	$7

Hard Drives:

PortaPak Transportable Drives	
30 meg 40 ms	$439
46 meg 40 ms	$469
40 meg 25 ms Conner low power	$699
155 meg TEAC Tape	$699

Input Devices:

Voice Navigator	$1074
Voice Navigator XA	$1488
Keytronics MacPro Keyboard w/3 yr. warranty	$119

CD-ROM Players:

Toshiba Portable w/MS Office & Image Club Type Vendor	$1195
Toshiba Portable alone	$756
Pinnacle Optical Drive	$3950

Simms:

1 Meg Simms	$77
4 Meg Simms	$599

See us at MacWorld Booth #5528

Maya Computer
Waitsfield, Vermont
802-496- 6982
FAX 802-496-8110
800-541-2318

"We will beat any advertised price."

Viking Computer Products Presents the BEST!
Plug and Play Internal and External Mac Drives

VCP VIKING COMPUTER PRODUCTS

CONNER	Int.	Ext.
40 Mb.	$349.00	$459.00
100 Mb.	$624.00	$724.00
200 Mb.	$989.00	$1.089.00
SyQuest		
44 Mb. with cartridge		$689.00

Visa and Master Card Accepted, Corp. and Educ. PO's, Advertised Prices reflect A CASH discount

**Quantum and Hitachi high performance drives available, call for pricing

SIMMS $CALL .

Viking Computer Products
731 East Ball Road, Suite 101, Anaheim, CA 92805 •(714) 635-4855, FAX (714) 491-2416
Order Line (800) 447-6350

PostScript Laser Printers

QMS PS-800II NEW 8 pages per min., 35 resident fonts scaleable from 4 points, 300 x 300 dpi, 500 sheet capacity, 2 input trays. AppleTalk, serial and parallel interfaces. 2MB memory. Mac & PC software. List: $6,495 **IME Price: $2,595**

FAX Group 3 NEW Savin SX1500 personal FAX machine and copier. Flatbed. Groups 3/2. 9600 boud. List: $1,199 **IME Price: $399**

Brother HR-40 Daisy Wheel Printer. (Harris/Lanier label) NEW 40 cps. Letter quality. Sheet & tractor feeds. Wide carriage. Serial and parallel interfaces (PC & Mac). 2 color printing. List: $995 **IME Price: $199**

MasterCard/Visa - no surcharge

IME COMPUTERS
1340 Soldiers Field Road, Boston, MA 02135
(617) 254-1700 FAX (617) 254-0392 Established 1981

Quantum ProDrive 40S	$ 375
Quantum ProDrive 105S	635
Teac 150MB Tape Backup	699
44MB SyQuest Cartridge	77
USR HST 14.4 Dual Std	999

Bay Microelectronics
The Best Products at the Best Prices
210 Columbus Ave Suite 108, San Francisco, CA 94133
(415) 563-8392
VISA/MC accepted. Advertised products reflect a cash discount.

For more information call:
800-825-4ADS

Peripherals

Hard Drives

DRIVE	INTERNAL	EXTERNAL
20mb Seagate	$279.00	$329.00
40mb Quantum	399.00	479.00
45mb Seagate	359.00	439.00
80mb Quantum	619.00	719.00
100mb Conner	639.00	729.00
105mb Quantum	659.00	769.00
172mb Wren	999.00	1,099.00
300mb Wren	1,599.00	1,699.00
600mb Wren	2,149.00	2,249.00
44mb Syquest		649.00

All drives include true-scsi partitioning software, brackets, cables, documentation, a 1-2-year manufacturer's warranty and a 30-day money-back-guarantee.

Hardware House est.1986

3417 Spruce St., Houston Hall Lower Level, Philadelphia, PA 19104 • 215-574-3100 • Fax: 215-574-3103

CALL NOW 1-800-726-4622

MAC SALE 1-800-729-7031

Quality Repairs

Buy+Sell Macs

Best Prices

New Mac IIci, Portable, IIcx

Entire Mac Line In Stock

Full One Year Warranty Included Free

LIQUIDATING

PostScript Laser Printer

Canon 8ppm, 300x300dpi,
2 meg RAM expandable to 3,
35 Adobe Postscript fonts,
1 year warranty

$2495 MC/VISA Accepted

CRA SYSTEMS INC.

800-950-8212

Mac Parts and Repairs

New Book by Larry Pina/Macmillan Publishers:
"Macintosh Repair & Upgrade Secrets" $32.
Flybacks (UL Approved/OEM) $21.
3.9uf/100V/non-pol Capacitors $3.
Reduce the load on your Power Supply/
Low-loss 18 Gauge Replacement Cable $22.
Unused Plus Power Supplies $195.
Plus/SE Power Supply
Upgrade/Repair Kits (/Flybacks) $51/$41.
Power Supply Repairs*: $45 + parts
Motherboard Repairs** from: $85 + parts
Now Offering Mac II Repairs
*12/**6 Month Warranty
+72 Hour Turnaround
Visa/Mastercard
Call or Write for a Complete Price List

(503) 461-1136

Soft Solutions

907 River Rd., #98, Eugene, OR 97404
Fax (503) 485-4529

Special Services/ General

---

1 MEG X 8 SIMMS

$63.50

80ns, Fast Page

- In stock for immediate shipment
- Plug-in modules for Mac Plus, SE or Mac II
- 5 year warranty
- Prices subject to change

(800) 748-5766

MEGABYTE MEMORY PRODUCTS

7955 Silverton Ave. #1201 San Diego, CA 92126
(619) 536-1116

MacWEEK reaches two out of three Fortune 500 companies every week.

General

Shreve Systems

SE-30 Upgrade $1095. up

We BUY Systems!
Trades & Upgrades-CALL!
Wall-toWall we've got it ALL!

2421 Malcolm St.
Shreveport,La. 71108

La. call 318-635-1121 * FAX 318-865-2006

1-800-227-3971

Used Equipment

Service Parts

SALES & REPAIRS

Serving corporate, government and educational buyers since 1985.

When you need genuine Apple® parts, call the market leader.

• 24 hour turn-around! •

Call now for a catalog!

1-800-274-5343

We are significant buyers of large inventories of Apple & Macintosh Equipment— Call today for a quote!

Pre-Owned Electronics, Inc.

30 Clematis Avenue • Waltham, MA 02154
(617) 891-6851 / Fax: (617) 891-3556

Apple is a registered trademark of Apple Computer, Inc. Pre-Owned Electronics, Inc. is not affiliated with Apple Computer, Inc.

MICRO EXCHANGE

WE BUY, SELL & REPAIR MACS

REPAIR SPECIAL: MAC POWER SUPPLIES $79

NEW EQUIPMENT SPECIAL: MACIIcx.....$3,195

MAC PLUS SYSTEM BOARD REPAIR.....$135

(201) 284-1200 FAX (201) 284-1550

652 Passaic Avenue • Nutley, New Jersey 07110

CRA SYSTEMS INC.

700 S. UNIVERSITY PARKS DR. SUITE 650 WACO TEXAS 76706

WE BUY AND SELL NEW AND USED MACINTOSH COMPUTERS AND PERIPHERALS, ANY QUANTITY. CALL US LAST

NEW

MACINTOSH CPU's (SE, SE30, II, IIcx, IIci AND PORTABLE)	CALL
1 MEG SIMMS	$65
COLBY LAPTOP	CALL
PERIPHERALS AND SOFTWARE	CALL
HARD DRIVES (ALL BRANDS & SIZES)	CALL

USED

APPLE LASERWRITER	$2195	SE/20 AND LISA EQUIPMENT	CALL
APPLE LASERWRITER PLUS	$2495	MAC II COLOR SYSTEM	CALL

CALL: 1-800-950-8212 1-817-754-2120

FAX: 1-817-754-2345

MACINTOSH HARD DRIVE REPAIR

& Data Recovery

• Over 12 years of hard drive experience! •

• PCB & HDA REPAIR ON MOST APPLE MACINTOSH AND PC HARD DRIVES • 6 MONTH WARRANTY •

COMPUTER PERIPHERAL REPAIR

7570 S. U.S. HWY. 1, SUITE 8/9, HYPOLOXO, FL 33462

(407) 586-0011 We Buy Non-Working Hard Drives & Drive PCB's

Programming

Custom Databases

Complete database contracting services – design, development, installation, user training and maintenance.

db Vista
Inside/Out
4th Dimension
Foxbase

National Computer Labs, Inc.

- Phone: 800/359-0898
- San Francisco, Seattle,
- Memphis & Atlanta
- Fax: 707/745-5084
- Applelink: D1792
- CompuServe 76527,507

Franchise Enquiries Welcome

Used Equipment

"Check these prices!" from

MacHeaven™

Providing Good Homes to Experienced Macs Since 1987™

APPLE

All products New / Used $Call

CUTTING EDGE

800k FD	$149
20 mb HD	$359
30 mb	$469
45 mb	$515
60 mb	$599
80 mb	$675
45 mb Removable	$810
Two Page Display	$950

GCC TECHNOLOGIES

PLP + (demos)	$1375
Add'l Fonts	$239

COMPUTER CARE

Upgrade enhanced 128k or 512k to a Plus with *MacRescue*

w/your SIMMs	$375
w/our SIMMs	$450

MICROTECH

Great prices on all Hard Drives with a 5 yr. warranty. $Call

WE BUY SELL, TRADE & REPAIR

If we don't have it we'll find it!

FAST, FRIENDLY SERVICE

(703) 263-2567

MC/VISA Best Buy

For more information call

800-825-4ADS

CAREER OPPORTUNITIES

Career Opportunities Information

For more information about placing an ad call:

Paul Forsey
National Accounts Manager
(212) 503-5173

Steve Russell
District Sales Representative
(212) 503-5162

James O'Keefe
Account Manager
(212) 503-5163

or call
(800) 288-HIRE

Send all camera ready artwork to

MacWEEK
Career Opportunities
One Park Ave.
3rd Floor
New York,
NY 10016

Telecopiers
(212) 503-5197
(212) 503-5469

Ad Closing
Friday, 11 AM (EST)
11 days before
issue date

Product Marketing Managers!

T/Maker is looking for enthusiastic Macintosh people who want to make a difference.

We're seeking individuals who have Macintosh **experience, passion,** and **talent** to help us meet new opportunities in business application software.

T/Maker provides an outstanding work environment and an aggressive compensation and benefits package.

Please forward resumes to:
Attn: Elizabeth
T/Maker Co. • 1390 Villa Street
Mountain View • CA • 94041
415/962-0195 • FAX 415/962-0201

Electronic Publishing Studio Manager

Major N.Y.C. midtown-based entertainment firm has a challenging position available for a confident, take-charge person with an art production background to manage our Electronic (desktop) Publishing Department.

You'll train & supervise our Catalog Art Directors and Production personnel.

Qualified candidate must be able to meet tight schedules & possess the ability to handle a heavy workload, e.g. catalogs, ads, etc. (Overtime is required.) Knowledge of typography, desktop publishing, postscript files, color separation & networks also required.

Salary is commensurate with experience; fully paid benefits are offered. Qualified applicants are invited to submit resume, which MUST include salary history/ requirements to be considered, to:

Box 634BM,
Valley Stream, NY 11580.

Calling about a job?

Say you saw it in **MacWEEK.**

INFORMATION SERVICES COORDINATOR

Disney Development Company, the subsidiary of The Walt Disney Company responsible for the development of our non-theme park real estate assets, seeks an Information Services Coordinator to oversee a 100+ Macintosh LAN.

The Coordinator's duties will include:

- Defining business system requirements and assisting management with the assessment of package and custom software solutions.
- Coordinating with WALT DISNEY WORLD Information Services staff for local area network design, implementation, and maintenance.
- Overseeing all computer-related training programs.
- Serving as an information source for user hardware and software questions.
- Assisting with the identification and review of programs and products.
- Writing simple programs as required by users, and
- Assuming responsibility for computer budgeting.

Job qualifications include:

- Minimum of a bachelor's degree in computer science, business administration, information systems or related field.
- Heavy user interface including training experience preferred, and
- Knowledge of the following software and hardware:
  - —Macintosh family.
  - —DOS based systems.
  - —IBM System 38 and AS/400 (general knowledge of systems and Macintosh connectivity).
  - —Remote communications (interbridges, modems).
  - —Novell Netware.
  - —Microsoft Excel and Word.
  - —Electronic mail, and
  - —Experience with at least two programming languages.

Candidates possessing these qualifications are encouraged to submit a resume to:

Disney Development Company
Professional Staffing (CCM001)
8801 Vistana Centre Drive, Suite 200
Orlando, FL 32821
Fax # (407) 827-7999

© The Walt Disney Company

Disney Development Company
An Equal Opportunity Employer

At Novell, we're proud of our success. With over 67% of the network operating system market, our NetWare family of products has made us the undisputed industry leader. But there's something else we're proud of—our advances in Macintosh open-system connectivity. From protocol development to device programming, you'll tackle unparalleled challenges and industry issues. If this sounds like an ideal work environment, consider the following opportunity:

Software Test Engineer
Provo

Be an active participant on our product development team. This will involve investigating and evaluating Netware/Macintosh products to determine testability, in addition to designing, coding, debugging, testing, and documenting programs to provide functionality testing and automation of test suites. While doing so, you will generate written documentation of your results.

We require a BSCS, or equivalent, and 2 years of related experience. You must also have solid knowledge of Mac architecture and operating systems with programming in C and 68000 assembler. Familiarity with software testing concepts and procedures is essential. An understanding of Novell NetWare is desired.

Software Engineers
Walnut Creek

We have a variety of software positions available from entry- to senior-level. Areas of involvement include protocol development and implementation, device programming, Macintosh applications, and server system software development. You must be a self-starter capable of working within a unique, product-oriented environment. BS/CS degree, or equivalent, is essential.

We offer a competitive salary and benefits package. If you are interested in working for a progressive, dynamic organization, please send your resume to the appropriate location. For Provo: Novell, Inc., Dept. MW 2/20, 122 East 1700 So., Provo, UT 84606. For Walnut Creek: Novell, Inc., Dept. MW 2/20, 2180 Fortune Drive, San Jose, CA 95131. We are an equal opportunity employer.

NOVELL.

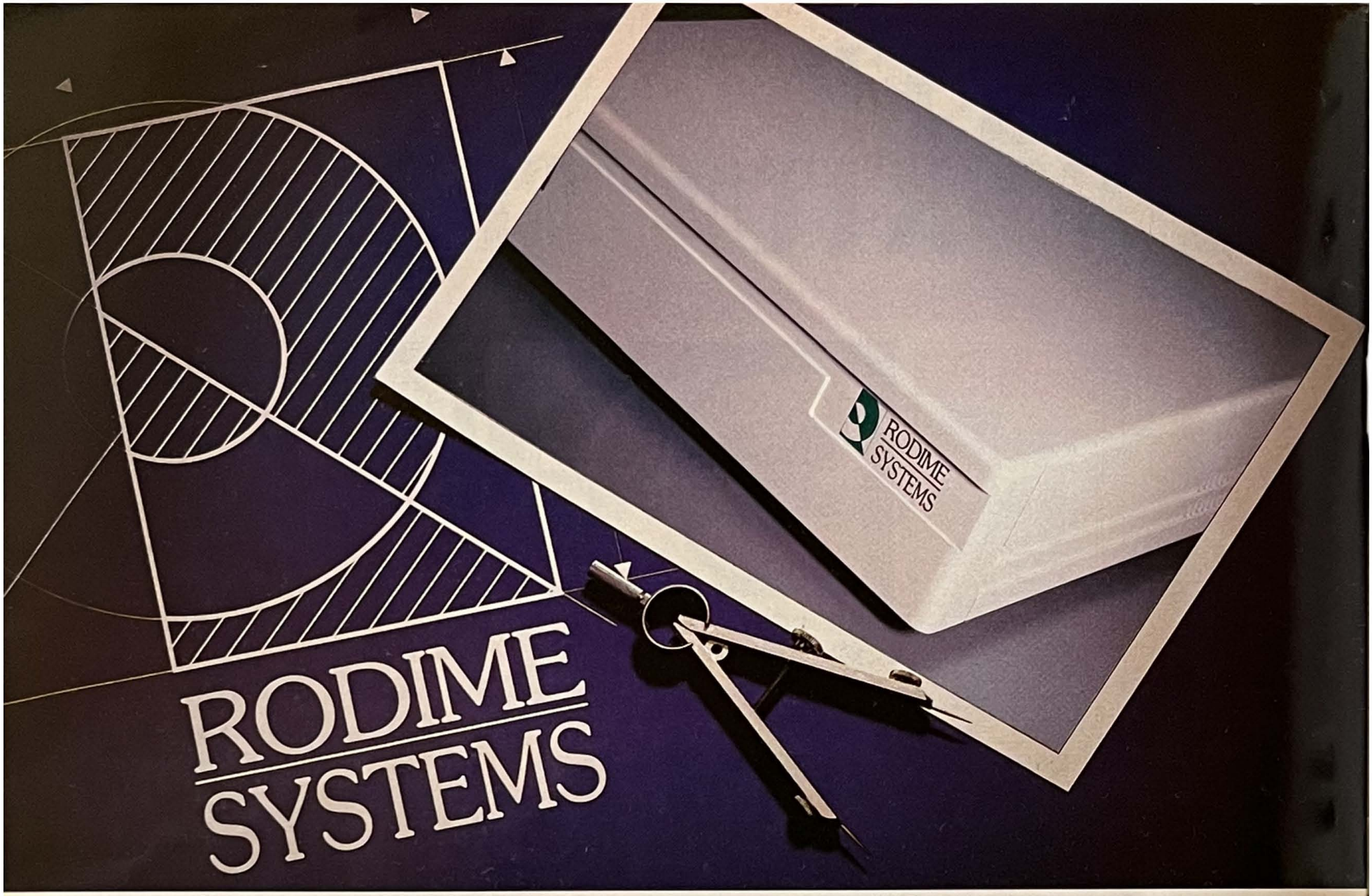
IT'S TIME YOU FOUND THE TECHNICAL TALENT YOU NEED.

Need qualified applicants to fill computer jobs? Week after week, enterprising recruiters rely on MacWEEK Career Opportunities to find them. We'll put the country's most experienced computer professionals at your disposal, from **Systems and Communications specialists to Engineering/R&D Graphics, and Technical Sales & Marketing professionals.** They're waiting to see your ad.

ADVERTISE IN MacWEEK CAREER OPPORTUNITIES

For more information or to place an ad, call Paul Forsey at 212-503-5173 or 800-288-HIRE

MacWEEK



Rodime Introduces the Standard for Hard Disk Technology.

COBRA™ DRIVES SET THE STANDARD. Cobra™ high performance internal and external hard drives are the finest drives available for your Mac. With capacities of 45MB, 70MB, 100MB, and 210MB, Cobra is the answer to all your storage needs. External Cobra drives come in a new, sleek low profile cabinet that fits neatly beneath your Mac Plus, Mac SE or Mac SE/30. Internal Cobra drives come with two mounting brackets. One for installation in the Mac II, MacIIx or MacIIcx, and one for mounting in the Mac SE/30 or Mac SE which allows you to keep both floppy ports active.

FAST 18ms ACCESS TIME. Nothing is faster! With an average access time of 18ms Cobra is the fastest drive available on the market for the Macintosh line of computers. Cobra drives also come with a 16K Caching Buffer which allows even faster access to your data, (sub 18ms), by storing frequently used data in "instant access" RAM.

CONVENIENT SINGLE POWER SOURCE. With the external Cobra, the flip of one switch on the drive activates your CPU, printer and other peripherals, eliminating cumbersome cables.

LED'S THAT PUT YOU IN CONTROL. Now you can be aware of the status of the drive at all times, with power-on, fault status indicator and fault warning lights.

ONE YEAR WARRANTY. Rodime Systems offers the level of reliability, innovation and support only an original equipment manufacturer can provide.

FREE BACK-UP AND UTILITY SOFTWARE. Cobra drives come with a FREE copy of FASTBACK™ back-up software, a $99.00 value, as well as Rodime's Utility Software which allows partitioning (including A/UX), media verification, formatting and driver installation.

RODIME'S COMMITMENT TO QUALITY. At Rodime Systems, the craftsmanship built into every drive is our commitment to produce the finest, most reliable drives available. When you buy a Rodime Systems product, you are buying years of manufacturing experience, state of the art engineering and peace of mind that comes from knowing that more Mac users have chosen Rodime drives than any other.

Fastback is a trademark of Fifth Generation Systems, Inc.,Macintosh, Mac Plus, Mac SE, Mac SE/30, Mac II, Mac IIx, Mac IIcx and A/UX are trademarks of Apple Computer, Inc., Cobra is a trademark of Rodime Systems.

Rodime Systems 851 Broken Sound Pkwy.
Boca Raton, FL 33487 407-994-5585
UK, Nasmyth Rd., Southfield Industrial Estates
Glenrothes, KY6 2SD, Fife, Scotland 592-774-704
France, Parc d'Affaires de Jouy-en-Josas
5bis Rue du Petit Robinson, 78350 Jouy-en-Josas, 1-34-659798

RODIME
SYSTEMS

Apple government contract in limbo

Apple, Honeywell dispute GAO review

By Pamela Pfiffner

Wahington — Apple and Honeywell Federal Systems Inc. last week formally requested that the General Accounting Office reinstate a federal contract worth at least $164 million in Mac systems and software.

The contract, for the Air Force's Worldwide Military Command and Control Systems Information System, was awarded in August but put in jeopardy last month when the GAO ruled that Apple's Mac IIx systems did not provide the multitasking capabilities required in the contract specification (see MacWEEK, Feb. 13).

Martin Marietta Corp. of Bethesda, Md., lodged a protest in September based on several issues, including the Mac's multitasking capabilities, and asked that the contract be awarded to itself and its subcontractor, Sun Microsystems Inc.

The GAO, however, recommended only that the Air Force reopen the bidding process and clarify its multitasking requirements. If Apple does not meet the revised specifications, the contract should be terminated, the GAO advised.

While the GAO ruling was a recommendation, not a mandate, it is rare for a federal agency to ignore GAO advice, Washington observers said. In its request for reconsideration, Honeywell, the primary contractor, said the GAO's ruling was based on "factual and legal errors."

Under the GAO's standard of review, according to Honeywell, the GAO can overturn a contract based on an agency's technical judgment when "a clear showing of

See Honeywell, next page

Third-party developers wait

With the Apple-Honeywell Air Force contract still up in the air, third-party developers who stand to gain from the deal are adopting a wait-and-see attitude.

"It's out of our hands," said Steve Ruddock, spokesman for Claris Corp. of Santa Clara, Calif. The contract calls for one copy of Claris' MacDraw II and MacProject II for each Mac IIx or IIcx delivered to the Air Force, or up to 80,000 packages over five years.

While the company stands to make millions from the contract, "Claris is a big enough company that no single deal is a make or break situation," Ruddock said.

Lenexa, Kan.-based Informix Software Inc., whose Wingz spreadsheet is part of the contract, is looking ahead. "I would like to believe that Apple can pull it out," said Doug Edwards, executive director of software marketing, "but we're pleased that the process [of federal procurement] that got us to be included in this contract in the first place has brought us to the notice of other federal users."

Dove Computer Corp., a Wilmington, N.C., supplier of acceleration and communications cards, approached the deal cautiously from the outset, according to Vice President of Finance Carl Stratton. "We viewed this one as

See Developers, next page

Lewin leaves NeXT for GO

By Daniel Farber

Redwood City, Calif. — Dan'l Lewin, an original member of the NeXT management team and most recently vice president of sales, this month resigned from Steve Jobs' workstation company to accept a position with GO Corp. of Foster City, Calif.

He will serve as vice president of sales and marketing at GO, a start-up that is reportedly developing a portable computer based on handwriting recognition technology.

Formerly director of education marketing for Apple, Lewin was one of six executives who left the company in 1985, along with former Chairman Jobs, to help found NeXT Inc. Lewin had been in charge of sales and marketing for NeXT until July, when Jobs took on the marketing responsibilities himself.

NeXT last week said that Lewin will be replaced by Todd Rulon-Miller, whose previous title was director of sales.

The company also announced that the NeXT machine will be available in the United Kingdom through Businessland (UK) Ltd. In addition to the business market, Businessland will sell the cube to developers and to the education and government sectors. Those markets are currently handled directly by NeXT in the United States.

The base price for a system in the United Kingdom, which includes a cube, Megapixel display, 8 Mbytes of RAM, a 256-Mbyte optical drive, a 40-Mbyte accelerator drive and NeXT bundled software, is £6,495, or about $11,000. □

Study compares Mac, PC software prices

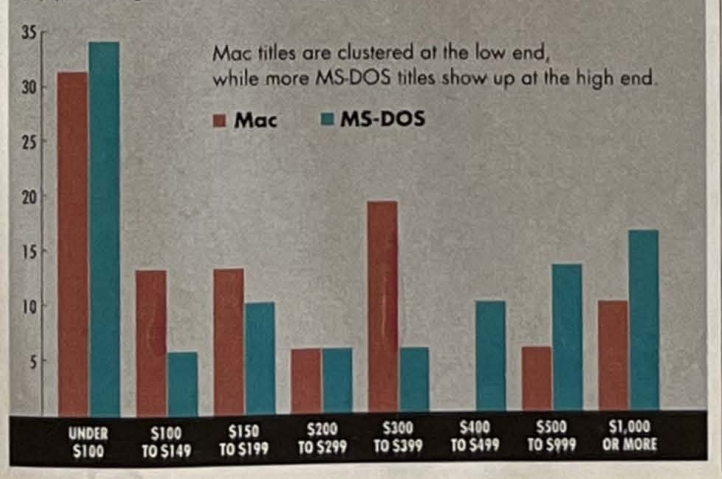
Watertown, Mass. — While Mac software prices have crept upward in recent years, they remain well behind the norms of the MS-DOS market, according to an informal analysis reported in the Feb. 3 issue of Soft•Letter, an industry newsletter published here.

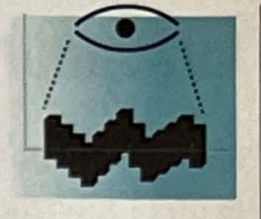
The publication, edited by analyst Jeffrey Tarter, compared prices for the most popular title offered by 31 Mac-only developers with prices listed for the lead product of 126 MS-DOS developers. (Respondents who support both platforms were not included.)

The median price for Mac titles in the sample was $195, while the MS-DOS group's median was $270. While a slightly higher percentage of MS-DOS programs were less than $100, Macintosh software was more heavily represented in the $100 to $400 spectrum. Only 16 percent of the Mac programs, compared with 38 percent of the DOS titles, carried price tags of more than $400.

The pricing analysis was part of a survey on software manufacturing operations that Soft•Letter conducted last summer. □

Mac and MS-DOS software price distribution
(by percentage of titles in price segment)





Business BRIEFS

Motorola and Toshiba to make and sell Echelon's LON chips

Los Gatos, Calif. — Echelon Corp., the networking technology start-up established by Apple co-founder A.C. Mike Markkula and funded in part by Apple, last week announced agreements under which both Motorola Inc. and Toshiba America Information Systems Inc. will manufacture and sell chips designed by Echelon.

Echelon's local-operating network (LON) technology is designed to provide low-cost "distributed intelligence" networking for applications as varied as automobile door locks and factory process-control and inventory-tracking systems. The company is developing integrated circuits that will allow each network node to sense, control and report its status. The circuits also will enable the nodes to respond to messages received from other nodes through a variety of media, including twisted-pair, fiber-optic and coaxial cabling; power lines; radio-frequency waves; and infrared light.

Markkula, vice chairman of Echelon and a key member of Apple's board, said, "I believe LON technology is the beginning of a revolution in communications and control that will affect our lives in the next decade every bit as much as personal computer technology has in the last. Just as the introduction of the Apple II and the Macintosh brought new capabilities at lower costs to the desktop, the introduction of the LON system will lead to lower-cost products capable of enhancing the way we work and live."

Under last week's agreement, Motorola's Semiconductor Products Sector and Toshiba's Semiconductor Group also will be entitled to design and market enhanced versions of the Echelon chips.

E-mail services unite to provide universal directories

Upper Saddle River, N.J. — A group of leading electronic-mail service providers has agreed to form a consortium to hasten the development of universally accessible directories, which will make it easier to exchange messages across competing systems. Formation of the Directory Services Consortium was proposed by Western Union Corp. in January.

Others who have agreed to take part include American Telephone & Telegraph, Sprint International, BT Tymnet, General Electric Information Services, MCI Telecommunications Corp., Pacific Bell, IBM Information Network, Teleglobe Canada, CNCP Canada and Infonet. A Western Union representative said others are expected to join soon.

The group will convene in April for a three-day session to discuss implementation of the X.500 international directory standard and other topics. Although membership is presently limited to service vendors, the group will look to user organizations for input, Western Union said.

Macworld International Summit 1990 to focus on distribution

San Francisco — This spring's Macworld Expo here will include the Macworld International Summit 1990, a two-day conference on issues concerning international distribution of computer products.

"Foreign sales are the fastest growth track for hardware and software companies," said Randy Green, president of Boston-based GreenTree Associates, one of the conference organizers. "But few American developers successfully sell their products overseas."

The conference, to be held April 7 and 8, will include sessions on distribution channels, piracy and the gray market, export preparation, and licensing. Speakers will include representatives from the U.S. Department of Commerce, the State World Trade Commission, the European Bank and the European Commission.

Registration, which is $250 per day or $450 for both days, is limited to 300 participants. The conference will be held at the San Francisco Marriott Hotel.

For information, call GreenTree Associates at (617) 742-7135. □

European proposal draws SPA's ire

New law would not protect interfaces

By Raines Cohen

Washington — The Software Publishers Association, Apple and other computer-industry groups are trying to convince U.S. developers that they need to influence the Council of European Communities' deliberations on software copyright law.

According to U.S. developers and associations, the European proposal, or Software Directive, under consideration, titled "The Proposal for a Council Directive on the Legal Protection of Computer Programs" differs from U.S. law in several important areas, including: interface protection, reverse-engineering exemptions, and the balance of rights between software publishers and users.

While applauding efforts to arrive at a common copyright law throughout Europe, the SPA, the Business Software Association and other industry groups said they are concerned that the new proposal, if enacted, could adversely affect the development of the software market there.

For instance, copyright law traditionally protects the expression of an idea but not the idea itself, according to Mary Jane Saunders, general counsel for the SPA. The proposed Software Directive specifically labels interfaces as ideas.

Jim Burger, chief counsel to government at Apple, said the nebulous phrasing of the directive could mean no software would be protected. "As a lawyer, it seems to me that the problem is why the exemption is there to begin with. Either an interface is an expression and protectable, or it isn't," he said.

Burger said the directive's wording is a major concern because the legal systems in most European countries are based on civil law, in contrast to the common-law foundations of judicial systems in the United States and United Kingdom. In civil-law countries, Burger said, judicial precedent is generally not considered.

Another section of the directive the SPA would like to see more clearly phrased involves originality. The association's concerns stem from copyright law in Germany, a member country of the CEC. There it usually takes expert witnesses a year or more to prove that a work is original and that its creation "exceeded the skill level of an average programmer," according to the SPA.

Some European and Japanese developers are seeking to have the Software Directive exempt reverse engineering, or decompilation, arguing that access to the ideas and techniques in U.S. software is necessary for European developers to catch up.

The SPA, however, claims that such an exemption would lead to unauthorized copies of software.

For its part, Apple is trying to encourage U.S. developers to become involved in the lobbying effort. David Szetela, manager of Apple's developer services, last month sent a letter urging developers to sign a statement of support for the Software Action Group for Europe, a European developers organization that is lobbying along lines similar to the SPA's.

Some developers have questioned whether SPA's and SAGE's general statements about the directive address all the issues. In a letter sent to users groups and developers early this month, Michael D. Brown, chairman of Central Point Software Inc. of Beaverton, Ore., expressed concern that the directive could be more restrictive than U.S. laws in areas neither association has mentioned.

As examples, Brown cited prohibitions on software rental and the lack of any provision that would allow users to make backup copies of software, which is specifically permitted under U.S. law. Of particular concern, Brown said, is the portion of the Software Directive that would prohibit making, importing, possessing or dealing with articles intended to remove copy protection.

"In the United States, copy protection went away because it was ineffective and users didn't like it. If it were made effective in Europe, by means of law, it wouldn't go away," said Brown.

Apple's Burger attributed the recent flurry of activity surrounding the Software Directive to heightened awareness of the issues among developers. He said the industry is concerned about precedents that could affect the upcoming General Agreement on Trade and Tariffs Trade Round on Intellectual Property. That meeting, at which government representatives will set standards for international trade policies and tariff regulations, will take place later this year.

"If Europe adopts the aberrations from current copyright law, we'll be in a difficult negotiating position relative to Third World countries' laws," Burger said. He added that the lack of sufficient legal protection could delay development of software markets in those countries by years. □

Developers *From previous page*

gravy," he said. "We'll be disappointed but we have not put all our eggs in one government basket."

Focus Graphics Inc., based in Foster City, Calif., has the distinction of being the sole source for the film recorder ordered by the Air Force. As a result, even if the Honeywell award falls through, Focus' ImageCorder will be picked up by competing bidders. The deal will earn Focus roughly $25 million. "We're in a pretty good position, but the problem is the delay and the uncertainty," said Gary Gratny, the company's director of market development.

"We're trying to implement just-in-time manufacturing, and this is a monkey wrench," Gratny said. — *By Pamela Pffifner*

Honeywell *From previous page*

unreasonableness or abuse of discretion" has been demonstrated. But this was not the case, said Honeywell, maintaining that the GAO "substituted its technical judgment for that of the Air Force."

Honeywell also cited as a factual error the GAO's determination that standard Mac applications running on the Mac IIx require the standard Mac operating system and therefore no more than one application can run at a time. Both Apple and Honeywell dispute this claim, stating that the Air Force was mistaken in believing that both the Mac operating system and A/UX have to be active simultaneously.

"In fact, the Macintosh operating sytem is not physically present in the software solution the Air Force contracted for with Honeywell," Apple said in a press release accompanying the Honeywell appeal.

The GAO must now look at the errors described in Honeywell's request for reconsideration. According to David Ashen, GAO deputy assistant general counsel, the agency has 90 days to reconsider the ruling, but Ashen said he expects a decision by the end of March.

Other parties involved in the contract also asked the GAO to reconsider its ruling, Ashen said. Martin Marietta again asked the GAO to award it the contract without reopening the bidding process, while the Air Force, tacitly endorsing the Mac and A/UX, urged the GAO not to make it reopen bidding. The Air Force did say it would honor the stipulation in the GAO ruling to pay Martin Marietta's protest and legal fees. □

MarketWEEK

STOCKWATCH

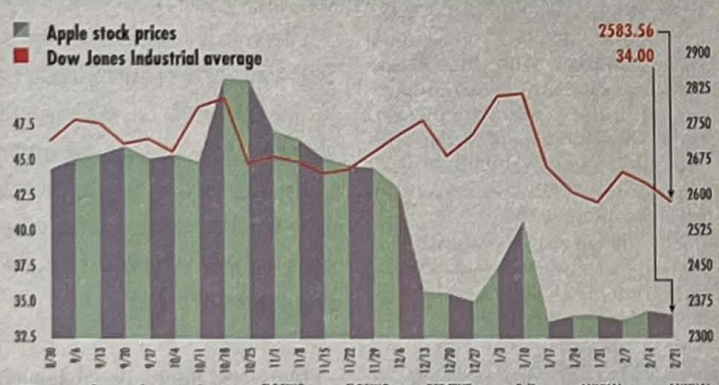
Tech stocks end week with an uninspired close

Investors cast a cautious eye on high-technology stocks during the week ended Feb. 21, with the result that many issues clung tightly to their previous week's close.

Overall, the week's proceedings were uninspiring, with five stocks gaining, five losing and two stocks unchanged.

Apple, fighting negative reaction over its organizational turmoil, dropped 25 cents a share to $34, dangerously close to its 12-month low of $31.88.

In sharp contrast, Digital Equipment Corp. suffered a dramatic decline, as it crumpled 6.27 percent under the weight of sell orders. DEC said it might post its first quarterly loss in its 32-year history, caused by soft sales and high operating costs. Staff reductions could be the next step. As a result, DEC was the largest percentage loser in MacWEEK's portfolio.



Mac-related stocks

	CLOSING 2/14/90	CLOSING 2/21/90	PERCENT CHANGE	P/E RATIO	ANNUAL HIGH	ANNUAL LOW
MAC-RELATED COMPANIES						
Adobe Systems Inc.	27.00	27.50	1.85	18	30.00	14.00
Aldus Corp.	20.50	20.50	0.00	17	22.50	12.25
Apple	**34.25**	**34.00**	**-0.73**	**10**	**50.38**	**31.88**
Ashton-Tate Corp.	11.00	11.00	0.00	-10	24.00	8.75
Businessland Inc.	7.25	7.00	-3.45	12	14.88	6.50
Microsoft Corp.	95.00	96.13	1.18	26	96.13	45.75
Motorola Corp.	59.13	57.88	-2.11	15	63.63	39.50
Seagate Technology Inc.	18.25	18.50	1.37	10	19.63	9.38
3Com Corp.	11.38	11.88	4.40	14	28.75	10.00
INDUSTRY INDICATORS						
Digital Equipment Corp.	77.75	72.88	-6.27	10	115.63	72.88
IBM Corp.	103.75	104.88	1.08	16	126.00	93.38
Sun Microsystems Inc.	22.00	21.00	-4.55	48	23.00	13.00

S=Reflects stock split D=Deficit

Compiled by Nordby International Inc., Boulder Creek, Calif.

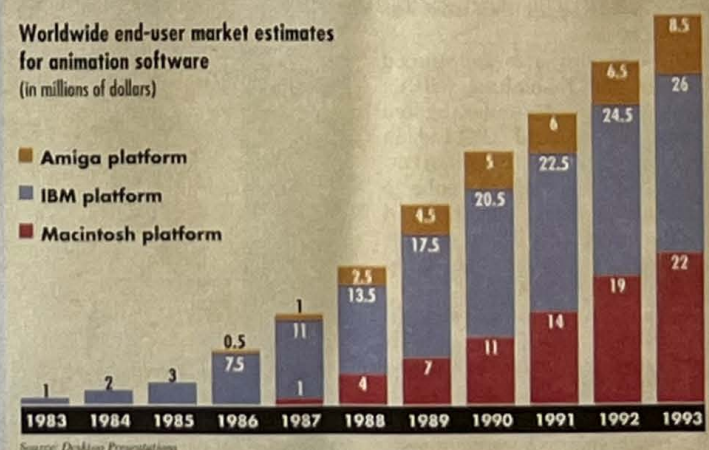
MARKETWATCH

Market for Mac animation software projected to grow

Desktop Presentations Inc., a market research and publishing company located in Mountain View, Calif., projects a strong growth rate (in terms of revenues) for Macintosh animation software in the early '90s.

According to Desktop Presentations, the Macintosh's improved showing will come from Apple's strong push in the animation market combined with the large installation of Macs in the creative industries. The Commodore Amiga is projected to retain the smallest portion of the market in dollars, owing to a relative lack of acceptance in the corporate world and low package prices. — *By Nathalie Welch*

Worldwide end-user market estimates for animation software
(in millions of dollars)



Source: Desktop Presentations

On Target for 1990?

MacWEEK offers a clear plan of attack with this practical 1990 interactive wall calendar. The 36"x 23" clear plastic calendar comes complete with 39 static vinyl shapes you can use to highlight important dates. Calendar also features important Macintosh-related trade show dates. Dry-erase markers wipe off calendar face with ease.

Plot purchasing cycles, marketing campaigns or — most importantly — your vacation schedule. Against a wall or window, it's a visual tool you'll use and enjoy in the months to come. Send for yours today. Just $12 (plus tax, shipping and handling) while supplies last. Offer valid in U.S. and Canada only. Allow 2-3 weeks for all orders.

Yes! I need _____ MacWEEK wall calendars at $12 each plus applicable state/local tax and $5 each for shipping and handling.

Enclosed is my check/money order for $_____

Bill $_____ to my ☐ Visa ☐ MasterCard ☐ American Express.

Account # _____ Expiration date _____

Signature _____

Name _____

Company _____

Address _____

City/State/Zip _____

Phone _____

Clip and mail to: MacWEEK Calendar
301 Howard Street
San Francisco, CA 94105

Gassée's a jolly good Fellow

While hundreds of midlevel Apple employees were busy last week learning how to make presentable résumés on the company-supplied LaserWriters, one high-level employee had no such concerns. As expected, Jean-Louis Gassée will stay on at Apple until September, the end of Apple's fiscal year. Also as expected, he'll be stepping down as president of Apple USA. With his new, short-term position as an Apple Fellow, perhaps he'll have some spare time to help last week's layoff victims unlock the mysteries of PageMaker and downloadable fonts.

On the other hand, most Apple Fellows manage to keep very busy. The Knife has learned that famous Apple Fellow and father of HyperCard, Bill Atkinson, is completely immersed in a new product. Sources say his new project is not another incarnation of HyperCard.

Window of opportunity. Negotiations were furious last week as Microsoft angled to stage an eye-opening photo opportunity to support its multimedia extensions for Windows 3.0. If Bill Gates gets his way, you'll see him on stage with MacroMind, Farallon, and perhaps some other high-profile Mac developers at this week's CD-ROM conference. The purpose of the love feast is to announce a consortium of developers that will support proposed cross-platform multimedia standards.

QuickDraw illustrated. Unlike its parent company, Claris seems to have a clear grasp of its future product line. The Knife reports that a major upgrade to MacDraw is close to beta testing, and sources privy to the specs are quite impressed. One informant called it "QuickDraw Adobe Illustrator," adding that it was an entire generation ahead of such products as Deneba's Canvas. All the checklist items, from Bezier curves to support for 16.4 million colors, are scheduled to be included. A name for the new upgrade has not been determined, although sources close to Claris say that from now on no new products or major upgrades will include Roman numerals, which, after the Apple III disaster, are considered a curse. If this is indeed the case, the Knife speculates that when the major upgrade to MacWrite II appears later this year it will finally carry a name worthy of the product.

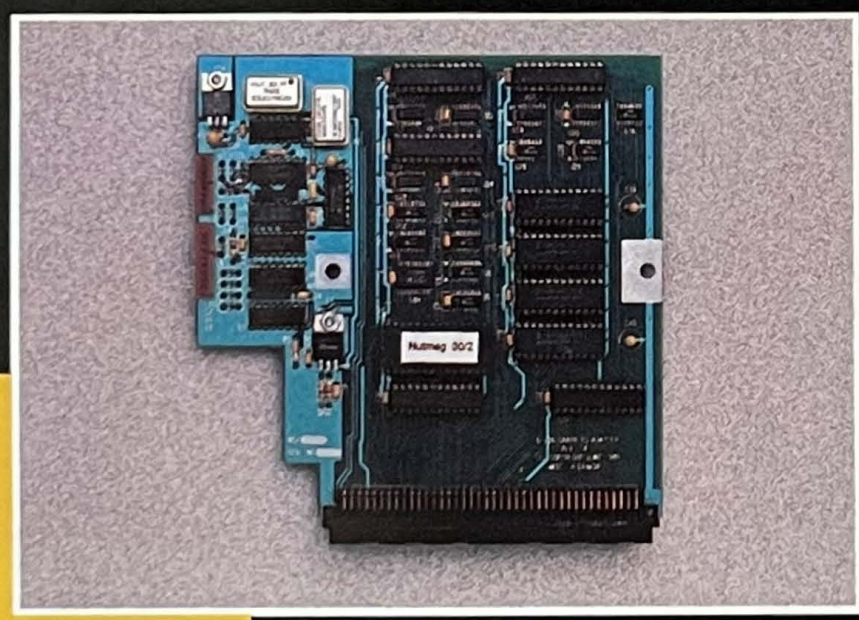
Table shopping. The Knife has learned that Ashton-Tate, still valiantly slugging it out in the brutal Mac word processing arena with FullWrite Professional, is close to inking a deal with Macreations to bundle the Tycho table-generating program with FullWrite 1.1. One aspect of the deal yet to be concluded is said to be the problem of updating the existing installed base of registered FullWrite users. Since FullWrite 2.0 is still in the alpha stage, the Knife speculates that the marketing deal between the two companies might include a provision to use Tycho technology to create an integrated table feature in 2.0 that will be functionally equivalent to Microsoft Word 4.0. Only time will tell.

Early keyboard warning. Thinking of buying an extended keyboard in the next couple of weeks? If so, the Knife suggests waiting awhile if at all possible. A major retail chain warned its store managers last week to avoid getting caught with an inventory of Apple Extended Keyboards in the later part of March. This might mean another on-the-sly switcharoo by Apple à la ImageWriter IIL, or it might mean that the home office is getting a fantastic deal on a third-party unit. Although this warning is open to several interpretations, better safe than sorry, no?

IIxi or not IIxi? One of the most interesting aspects of keeping tabs on Apple is figuring out when a product name is real and when a product name is simply a plant designed to help Apple plug leaks. This aspect of the job has come up several times over the past few weeks with reports of a new Mac IIfx that sounds suspiciously like our beloved and well-publicized Mac IIxi. Some sources even report seeing versions of the "Life in the Fast Lane" technical document, elaborate HyperCard stacks and PowerPoint presentations that refer only to the IIfx. The Knife says it's enough evidence to convince a grand jury. □

After a long 20 years, Bonnie Raitt got her Grammys in the nick of time. If you're sitting on an insider tip and are in need of a MacWEEK mug, Mac the Knife suggests you get moving. Call the Knife at (415) 243-3500 or MCI (MactheKnife).

Missing Link



Link your SE/30 to Apple's two large displays.

Now you can have the portability and power of an SE/30 AND the productivity of Apple's large displays. The Nutmeg 30/2 is a unique video board which drives both the Apple Two-Page Monochrome Monitor and the Apple Macintosh Portrait Display from a Macintosh SE/30. Our missing link doesn't even care which monitor you connect; it will adjust itself automatically to either monitor.

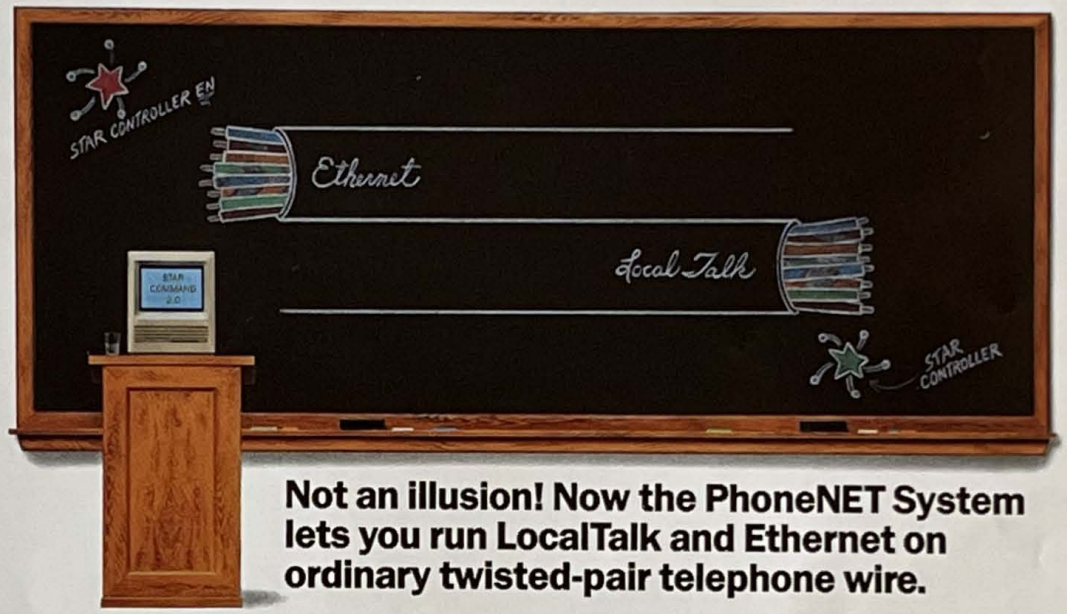
Nutmeg Systems is the premier supplier of a full line of video products for all Macintosh computers. See your Apple dealer, or call Nutmeg at 800-777-8439 for more information or to place your order.

© Copyright 1989 Nutmeg Systems, Inc. All rights reserved.
Macintosh is a registered trademark of Apple Computer, Inc.

Nutmeg Systems

Nutmeg Systems, Inc.
25 South Avenue
New Canaan, CT 06840
(203) 966-3226, FAX: (203) 966-7972

Introducing ethernet.



Not an illusion! Now the PhoneNET System lets you run LocalTalk and Ethernet on ordinary twisted-pair telephone wire.

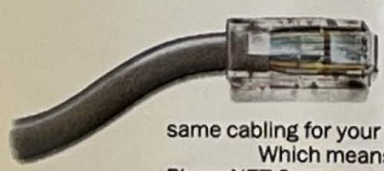
The PhoneNET System just got a lot faster. Farallon's PhoneNET StarController EN and PhoneNET StarConnector EN let you run Ethernet at 10 mbps over ordinary twisted-pair telephone wire.

What's even better, you can combine our Ethernet components with our LocalTalk PhoneNET StarControllers and StarConnectors to create hybrid networks that are reliable, cost-effective, and easy-to-manage.

Imagine, now you can run high-performance Ethernet for people who frequently access a central data base, transfer large graphics files, or operate network-intensive applications such as CAD or desktop publishing. And run low-cost LocalTalk for everyone else. All on the same wiring system.

Running two well-defined standards like Ethernet and LocalTalk also means your network is compatible with Macintoshes and IBM personal computers, NeXT and Sun workstations, laser printers and DEC VAXes. And everything will communicate using popular network software, such as AppleShare, 3Com 3+, TOPS and Novell Netware.

Your future is in the stars.



If you think hybrid networks make sense, here's an even more sensible idea: active star networks over twisted-pair telephone wire.

Stars are the standard for telephone networks, with cables running from the phone closet out to each desk. The PhoneNET System uses this same cabling for your computer network.

Which means if you already have a LocalTalk network using the PhoneNET System, then creating a hybrid LocalTalk/Ethernet network should be easy.

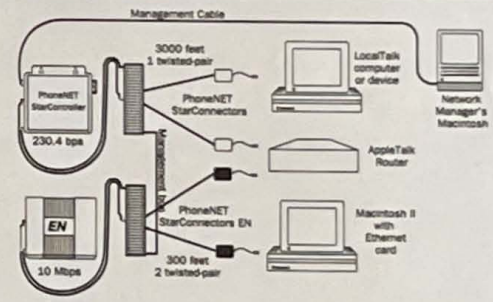
Manage to stay in control with StarCommand 2.0.

Of course, a larger, faster network requires more management power. Our StarControllers have been designed to make it easier and faster to isolate and fix problems without disrupting the network.

For example, our StarControllers automatically turn off jamming ports on LocalTalk and Ethernet, thus protecting the rest of the network, and turn them back on when the jam clears.

Plus, each StarController comes with StarCommand 2.0 software, which continuously monitors the network and alerts the network manager to any problems. Running under MultiFinder and password-protected, StarCommand will isolate and diagnose problems without interfering with the rest of the network. And since it works over a dedicated management bus, you can troubleshoot even if the network is down.

StarController EN:
- Standards: IEEE/ CCITT 802.3 Ethernet
- Supports 12 branches of 328 feet each
- AUI interface for connection to coax based Ethernet LANS
- Diagnostic LEDs for power, ROM, RAM, and to indicate packet transmission to each port
- Interconnect multiple StarControllers EN to support up to 1,024 users



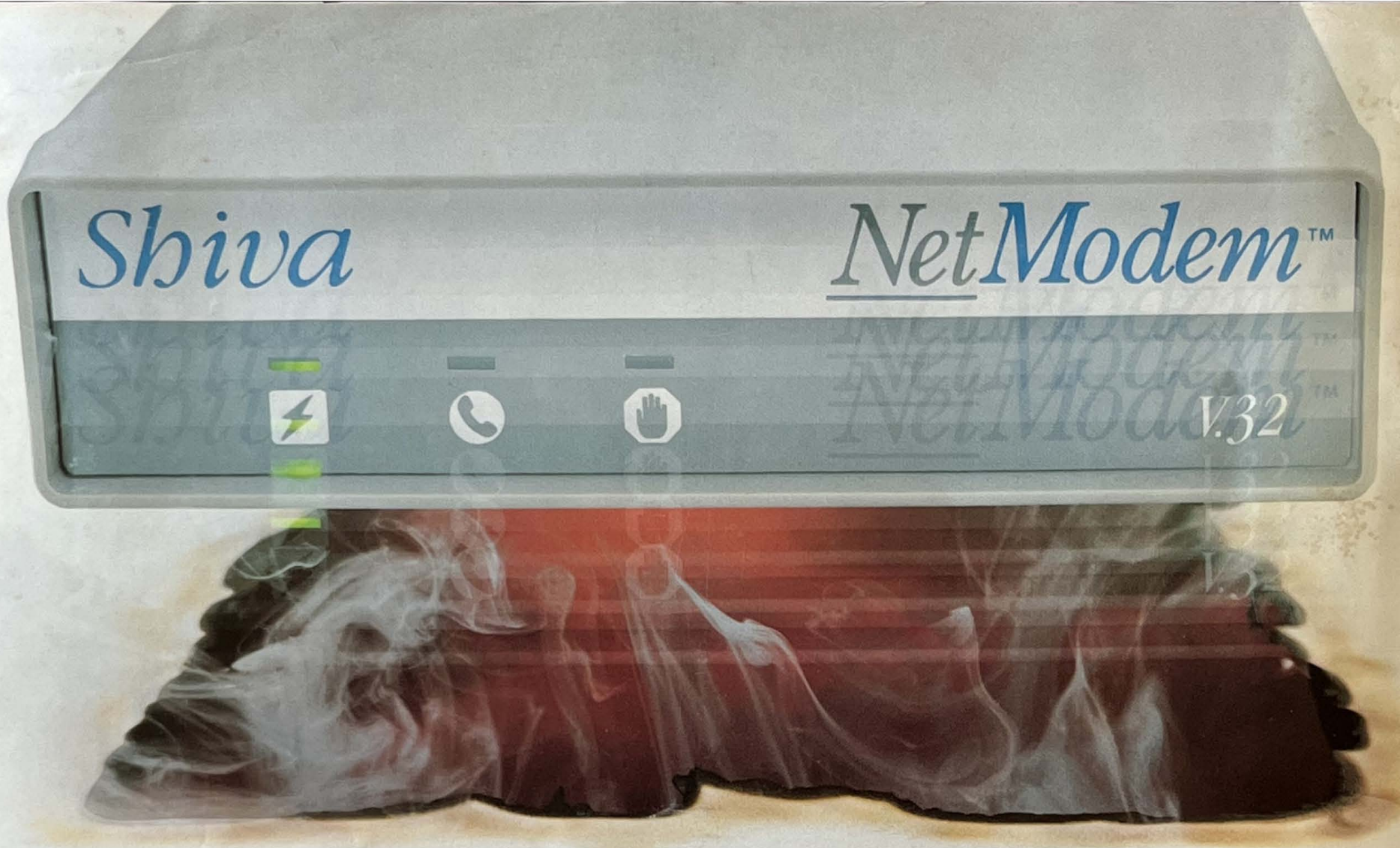
You say Ethernet, we say Ethernet.™

Look at it this way. Even if you're doing more things on AppleTalk than ever before, chances are, only some of your people are facing critical mass. Everyone else is perfectly happy and productive. So rather than installing Ethernet everywhere, maybe you should consider running both LocalTalk and Ethernet. At the same time. Over the same network cabling. With the PhoneNET System. For more information or technical support, call (415) 596-9000.

PhoneNET System™ *Look for the PhoneNET System logo when you buy network hardware and software products. It is your best assurance of quality and reliability.*

Farallon™
2000 Powell St., Suite 600
Emeryville, California 94608

Macintoshes and other devices may require an add-in card. PhoneNET and PhoneNET StarController are registered trademarks, and StarController EN, StarConnector, StarConnector EN, StarController and StarCommand are trademarks of Farallon Computing, Inc. Other brands are trademarks of their respective holders. © 1989 Farallon Computing, Inc.



It's Going Where No High-Speed Modem Has Gone Before.

SPEED	
NETWORK SHARING	
REMOTE BRIDGING	
EASE OF USE	
DIAL-IN NETWORK ACCESS	

There's nothing more advanced for Macintosh networks than the new high-speed NetModem V.32. Because the NetModem V.32 pushes performance to the limit. Just plug one into your network and every connected Mac can communicate at any speed up to a sizzling 9,600 bps with full V.32 compatibility. The NetModem V.32 is easy to use, even if you've never seen a modem before, with menubar 'LEDs' and familiar modem sounds fed back to your Mac as your call progresses. It's also economical, saving the expense of a dedicated Mac, multiple modems and extra phone lines – not to mention excessive telephone and online charges. It even lets you dial in to your network from a remote site to access files, use TOPS,® AppleShare,® E-mail,® printers or any other network resource. And it lets any Mac on your network access a remote network thousands of miles away, creating a powerful, high-speed wide-area internetwork. The Hayes-compatible NetModem V.32 comes with Internet Manager software that lets you create network zones, control traffic, restrict access between zones – even check the location and status of every device in the system. The NetModem V.32 is setting a whole new standard. For more information, call Shiva at **1-800-458-3550.**

NetModem™ V.32
by Shiva

We're Putting Networks To Work®

155 Second St., Cambridge, MA 02141

All product names are trademarks of their respective manufacturers.